DOCUMENT RESUME

ED 145 621 EC 102 563

AUTHOR	Torrance, E. Paul
TITLE	Discovery and Nurturance of Giftedness in the Culturally Different.
INSTITUTION	Council for Exceptional Children, Reston, Va. Information Services and Publications.
SPONS AGENCY	National Inst. of Education (DHEW), Washington, D.C.
PUB DATE	77
NOTE	101p.
AVAILABLE FROM	The Council for Exceptional Children, Publication Sales Unit, 1920 Association Drive, Reston, Virginia 22091 ($6.00)
EDRS PRICE	MF-$0.83 HC-$6.01 Plus Postage.
DESCRIPTORS	*Cultural Differences; Culture Free Tests; *Educational Alternatives; Elementary Secondary Education; Evaluation Methods; *Gifted; *Program Development; Research Reviews (Publications); *Screening Tests; *Talent Identification; *Teaching Methods

ABSTRACT

Discussed in the monograph are methods for identifying and developing programs for culturally different gifted students. In an overview section, the important issues and trends associated with the discovery and nurturance of giftedness among the culturally different are considered; and screening methods which involve modified traditional procedures, instruments that seem to lack cultural bias, and culture specific procedures are reviewed. A nonpsychometric approach is offered for identifying strengths and using strengths to motivate learning, select learning experiences, and develop career plans in 18 areas (which include ability to express feelings and emotions; ability to improvise with commonplace materials and objects; and articulateness in role playing, sociodrama, and story telling). A final section focuses on alternative programs, approaches, and additional general guidelines for discovering and nurturing giftedness. Appended are a table summarizing studies of racial and socioeconomic bias of the Torrance Tests of Creative Thinking, a sample checklist for observing signs of giftedness among the culturally different, and an annotated list of biographies and autobiographies of successful culturally different people for young readers. (SBH)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

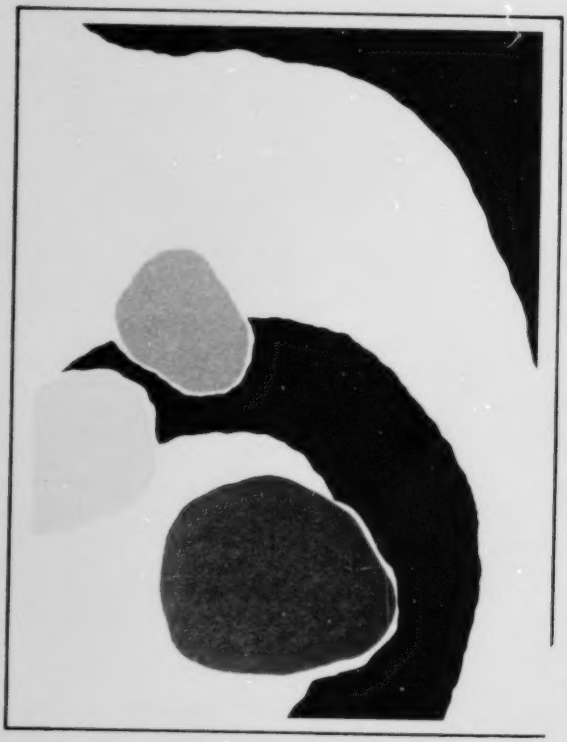
ED145621

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

DISCOVERY AND NURTURANCE OF GIFTEDNESS IN THE CULTURALLY DIFFERENT

E. Paul Torrance



EC102563

The Council for Exceptional Children

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

E. Paul Torrance

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

A product of the ERIC Clearinghouse on Handicapped and Gifted Children

Published in 1977 by The Council for Exceptional Children, 1920 Association Drive, Reston, Virginia 22091

Library of Congress Number 77-83459

The material in this publication was prepared pursuant to a contract with the National Institute of Education, US Department of Health, Education, and Welfare. Contractors undertaking such projects under government sponsorship are encouraged to express freely their judgment in professional and technical matters. Prior to publication the manuscript was submitted to The Council for Exceptional Children for critical review and determination of professional competence. This publication has met such standards. Points of view, however, do not necessarily represent the official view or opinions of either The Council for Exceptional Children or the National Institute of Education.

Printed in the United States of America.

Contents

About the Author v

Foreword viii

Overview 2

Creative Positives: A Nonpsychometric Approach 22

Articulating Discovery and Nurturance 64

References 73

Appendix A: Summary of Studies of Racial and Socioeconomic Bias of the Torrance Tests of Creative Thinking 85

Appendix B: Sample Checklist for Observing Signs of Giftedness among the Culturally Different 89

Appendix C: Annotated List of Biographies and Autobiographies for Young Readers of Successful Culturally Different People 91

4

About the Author

E. Paul Torrance, Alumni Foundation Distinguished Professor and Head of the Department of Educational Psychology at the University of Georgia, has earned an international reputation as a preeminent and pioneer researcher in creativity and culturally different children.

Dr. Torrance has diverse experience in teaching, counseling, and conducting research. He has taught high school students, directed a counseling program for disabled veterans and served as Research Director of the Survival Research Field Unit of the Air Force Personnel and Training Research Center. His major research in creativity spans the last two decades, beginning when he was appointed Director of the Bureau of Educational Research at the University of Minnesota in 1958. During this 8 years tenure, Dr. Torrance accomplished a large part of the research in developing the *Torrance Tests of Creative Thinking*. In 1966 he joined the faculty at the University of Georgia as Head of the Department of Educational Psychology and Director of the Georgia Studies of Creative Behavior. During the last 10 years Dr. Torrance has continued his research in methods of assessment and development of creative behavior. A significant portion of this research has been directed toward discovering talent potential among disadvantaged children and youth.

Dr. Torrance is the author of numerous journal articles and books, including *Guiding Creative Talent; Education and the Creative Potential;* and *Gifted Children in the Classroom*. He has co-edited *Creative Learning and Teaching; Educating the Ablest;* and *Issues and Advances in Educational Psychology*. As a researcher, educator, and writer, Dr. Torrance has made an invaluable contribution by helping other educators understand the results of his research so that they may develop and implement programs which will nurture the special creative abilities of children from all cultural backgrounds.

Foreword

□ I must warn the reader in advance that many of the insights and proposed solutions described in this monograph lack data support insofar as traditional empirical research is concerned. They are supported primarily by my own personal experiences in trying to discover and nurture giftedness among culturally different children, those of my wife, and those of my associates, primarily at the University of Georgia; the results of the few descriptive and experimental studies I have conducted; and wide reading of the biographies and autobiographies of gifted, culturally different people who have made outstanding achievements. Throughout the monograph I have tried to make clear the basis for my proposals.

In my opinion, what is presented here is not "arm chair speculation." I recognize that many readers will consider it just this and ignore it. I hope that others will be challenged by some of the insights and proposed solutions and will test them through both rigorous research and professional practice.

I doubt that our society is yet ready to support much research into the issues raised in this monograph. It is doubtful that any private foundation or governmental agency would support such research. There are, fortunately, other ways of getting research done—not big research projects, but significant ones nonetheless. Changes have been occurring, and much can be done to create a readiness for research and for changes in policies and practices.

This monograph was prepared about two years ago. After lengthy reviews, I was uncertain about how to revise it. There was simply little or nothing that I could do about the lack of rigorous research to support my insights and proposed solutions. Yet I felt that these insights and proposed solutions had validity and could make a difference in the lives of gifted, culturally different children. With June B. Jordan's encouragement, I finally decided to go ahead and revise the monograph for publication. Readers must evaluate my insights and proposed solutions in the light of their own experiences. I can only hope that someone will accept the challenge of testing them.

E. Paul Torrance
June 1977

DISCOVERY AND NURTURANCE OF GIFTEDNESS IN THE CULTURALLY DIFFERENT

Overview

□ Numerous groups of educators now seem ready to do "something" about discovering and nurturing giftedness in culturally different students. Most groups, however, seem to be at a loss as to what to do. Since the problem is so complex and since each group confronts such different problems, it would not be possible in this monograph to set forth a set of solutions that would help all groups interested in doing something about discovering and nurturing giftedness among culturally different students. Instead, I shall try to make this monograph basically a resource book of alternatives, which I hope will be of some help to any group really interested in discovering and nurturing giftedness among the culturally different.

OBJECTIVES

More specifically, this monograph will:

1. Identify the more important issues and trends associated with the discovery and nurture of giftedness among the culturally different.
2. Identify some of the more useful standardized screening procedures for identifying giftedness among these groups.
3. Identify some of the more promising screening procedures now under development.
4. Suggest a variety of nonpsychometric procedures for discovering giftedness.
5. Suggest ways of making existing procedures more useful.
6. Suggest ways of developing effective programs for nurturing giftedness among culturally different children.

In the course of my work with culturally different children I have developed some well defined biases and some procedures that I believe are useful in both discovering and nurturing giftedness among the culturally different. While I shall try to be as objective as possible

in presenting the contributions of others, users of this monograph should be warned that my own solutions will dominate perhaps more than they should. Because I know more about these than I do about the solutions that others have developed, I hope this will be understood and tolerated.

THE PROBLEM

Those groups concerned with the identification and development of giftedness seem to be approaching consensus on at least two points: There is a great deal of giftedness among the culturally different, and the waste or underuse of these resources is tragic. Almost everyone also agrees that traditional identification procedures such as intelligence tests, College Board Entrance Examinations, Graduate Record Examinations, and the like are inappropriate for discovering giftedness among culturally different groups. There is also growing agreement that existing school programs are biased against culturally different groups. However, this conclusion is still not widely accepted.

Inadequacies of Traditional Tests

Documentation of these conclusions is voluminous. In the 1930's and 1940's, pioneering efforts such as those of Otto Klineberg (1935, 1944) and Allison Davis and his associates (Davis, Gardner, & Gardner, 1941) presented considerable data concerning the inappropriateness of traditional intelligence tests and the loss of talent among Blacks. In the early 1960's, efforts such as those of Hoffman (1962) and Black (1963) contributed to a growing awareness of the inadequacies of intelligence tests, college admission tests, and graduate admission tests and raised serious issues about their role in denying opportunities to gifted individuals from culturally different groups. Generally, measurement establishments seemed to be unimpressed by these and other arguments and data and defended traditional assessment procedures. However, when the controversy moved from books, college and university classrooms, and professional meetings to courts of law, the consideration of other alternatives became more serious. Thus far, most of the legal confrontations have been concerned not with the denial of opportunities to gifted students but with the incorrect placement of children in programs for mentally retarded students. More recently, there has been increasing concern about the effects of tests in denying culturally different students access to college and graduate training (Astin, 1975; Goolsby, 1975). Thus far,

there has been a general evasion of the issues concerning violations of the civil rights of gifted, culturally different students.

Kamin (1974), Miller (1974), and Samuda (1975) provide summaries of the issues and consequences associated with the use of tests in discovering giftedness among the culturally different. In *The Science and Politics of I.Q.*, Kamin showed how intelligence tests were used in the early 1900's to deny the entrance of culturally different groups to the United States and examined the evidence concerning the heritability of intelligence. This book is perhaps the most extensive response thus far to the arguments of Jensen (1969, 1972) and Herrnstein (1973) concerning this issue. Miller's *The Testing of Black Students: A Symposium* is a collection of 10 articles by educational researchers concerning the critical issues of educational and psychological testing of minority group children. Samuda's *Psychological Testing of American Minorities: Issues and Consequences* presents perhaps the most thorough and balanced view of the issues and consequences of the psychological testing of minorities in the United States. This book includes a compendium of tests for minority adolescents and adults. Though somewhat narrow and biased in treatment, the book does consider some of the alternatives to traditional standardized tests and attempts to identify trends.

Ineffectiveness of Education Programs

Coleman (1966) and Jencks (1972) documented the ineffectiveness of the education of the past in making a difference in the lives of culturally different students. Some of the responses to these reports have sought the reason for these findings. In an issue of the *Harvard Educational Review* concerned with perspectives on the Jencks report, a group of Black educators (Edmonds et al., 1973) seemed to get to the heart of the problem. Some of their charges included:

> By grade 9, many poor children are less than enthusiastic about school largely because they have learned little in relation to what should be taught and because the school milieu is culturally responsive to the affluent, which is another way of saying it is antipoor. (p. 81)

> Until public schools are held responsible for responding to children rather than the other way around, no test of public instruction will have occurred. (p. 82)

> . . . people vary in their cognitive styles and . . . until schools learn to recognize this and plan different ways of teaching the requisite skills to all children, they will not come close to providing equality of educational opportunity. (p. 83)

> . . . the compensatory interventions analyzed by Jencks deny cultural differences or cultural pluralism. Such interventions were doomed to failure from the start. (p. 84)

The problem, then, seems to be one for which "more and better of the same" is not enough. Different alternatives must be produced, explored, and evaluated. First, let us examine the issues and trends that have emerged from recent discussions.

MAJOR ISSUES

The attempts of Riessman (1962), Clark (1965), and Fantini and Weinstein (1968) to identify the major issues involved in discovering and nurturing giftedness in the culturally different are well known. The more recent work of Samuda (1975) was concerned primarily with the issues involved in the psychological testing of minorities. One of the more future oriented and balanced summaries of the issues has been provided by Bruch (1975). On the basis of her review and evaluation of the literature and her experience in searching for gifted students among disadvantaged groups, she identified four major issues, which are briefly summarized here.

The first issue identified by Bruch concerns the middle class, mainstream bases of measurement instruments used in identifying giftedness. She pointed out that there is fairly general agreement that intelligence tests were designed for middle class populations and that their use limits selection for special programs to mainstream abilities (Gallagher, 1974). She maintained that a conflict between minority and majority cultures is evident in the mainstream culture's lack of recognition or underestimation of abilities in minorities. For example, poor test performances among children who live in poverty may be associated with neglect of physical and psychological needs. Both culturally different and poor children frequently demonstrate low self concept and motivation on mainstream tests.

Bruch saw future hope in the *difference* and *bicultural* models as opposed to the *deficit* models that have dominated recent compensatory education efforts. Difference models focus measurement on the characteristics nurtured by a particular culture. The bicultural models focus on the dual cultural experiences of ethnic and other cultural identity groups, and measurement procedures are directed to combinations of relevant cultural and mainstream characteristics.

The second issue identified by Bruch is related to the neglect of known subcultural values, abilities, and specific knowledge in current assessment instruments and procedures. She pointed out that no test developer has made a systematic and thorough study of the types of information valued in Black culture and stressed the need for modifying standardized instruments with consideration of word usage in various culturally different groups. She also charged that ignoring variations and subtleties of language in different cultural

groups frequently elicits "culturally right" but "mainstream wrong" answers. Vontress (1971) contended that the behavioral style required in traditional testing does not utilize the personal style qualities of culturally different children.

A third issue conceptualized by Bruch is concerned with further motivational negatives related to educators, test administrators, and test administration procedures. The biases of educators who are straitjacketed by traditional IQ concepts are reinforced by the inability of those who cannot accept cultural pluralism and measures growing out of cultural pluralism. Mainstream biases interfere with the consideration of values from other cultures and prevent some educators from accepting the cognitive and behavioral strengths of culturally different students. In fact, many of them regard these strengths as negatives and try to extinguish them rather than use them constructively.

Bruch pointed out that the negative expectancies of test administrators may affect the performance of the culturally different and emphasized the importance of good rapport, especially in individual testing. Culturally different children may resent mainstream culture tests and display low motivation. Bruch also cited the importance of the appropriateness of the social setting.

The fourth general measurement issue cited by Bruch concerns the fallacies of measurement among culturally different groups. Participants in a national conference on giftedness among culturally different students contended that one important barrier to identification of giftedness among the culturally different is the belief that objective measurement is the only way to measure (Gallagher, 1974). Many scholars also question the reliability and validity of intelligence measures of giftedness among the culturally different. Other myths cited by Bruch include the assumption that IQ tests measure innate ability relatively without the influence of experience, the belief that IQ tests measure unitary abilities, and the assumption that such tests adequately sample all intellectual talents.

SOME TRENDS

Perhaps the most complete survey relevant to the discovery of giftedness among the culturally different is one prepared by Samuda (1975). He stated his belief that trends are in the direction of expansion and elaboration of psychometric strategies rather than the abolition of tests as recommended by several professional and lay groups. He admitted, however, that changes are mandatory if the makers and users of tests are to discharge their functions responsibly.

Furthermore, William W. Turnbull in the Foreword of Samuda's book seemed to sanction this position and admitted that "not all is well." Samuda identified the following six trends, which may provide a background against which to consider the future alternatives proposed in this monograph.

The first trend is illustrated by the common response of test producers to charges that testing practices keep culturally different students in inequitable educational situations. The test producers have maintained that the fault is not with the tests but with the teachers, counselors, and administrators who use them. They maintain that it is not the tests that are unfair but that it is life that is unfair to culturally different students. (In the next section of this monograph, a number of existing instruments that have been adapted for use with culturally different groups will be identified, and suggestions will be made for making them more helpful.)

The second trend identified by Samuda is concerned with the need for training and sensitizing test users to possible misinterpretations of test scores as a result of certain kinds of technical and psychological contamination. He cited such basic issues as lack of reliable differentiation in the range of minority group scores, which tend to cluster at the lower end of the total range; lack of predictive validity when scores are compared with standardization samples of a different sociocultural background (*Editor's note: Validity* in testing refers to the instrument's ability to measure correlates with real life performances of the same mental tasks.); and emphasis on understanding the sociocultural background of the group being tested. This trend, as well as the first, reflects a deficit model in dealing with culturally different students. Tests are viewed as predicting the success of students in overcoming the deficiencies that an unfair social system has forced on them.

The following is an excellent example of how the contaminating factors identified by Samuda affect research results. A number of studies have shown fairly high positive correlations between measures of creative thinking and measures of reading comprehension, while other studies have shown no statistically significant relationships between these two kinds of variables (Torrance, 1965a; Abbott, 1973). A closer examination of these studies shows that in all of them there is no significant relationship between the measures of creative thinking and measures of reading comprehension when the study population includes a wide range of socioeconomic status and both Black and White children. However, when all members of the study sample are Black or lower socioeconomic status, relationships between these two kinds of variables are consistently rather high and in the positive direction. Similarly, when all members of the study

sample are from the middle socioeconomic class, the relationships are also positive and statistically significant. This phenomenon occurs because there is no statistically significant difference in the creative thinking abilities of Blacks and Whites or of lower and middle class children and there are differences in the reading comprehension of these groups.

Samuda's third trend concerns the use of measures of the environment to bolster and supplement scores from traditional intelligence tests. Advocates of this trend (Wolf, 1964) maintain that the addition of a measure of the environment greatly enhances the estimation of academic achievement. I have not seen sufficient evidence of this practice or of the tools for accomplishing this goal to consider it as "a trend" at the present time. Certainly, adequate guidelines do not yet exist for making it a practical trend.

Samuda's fourth trend is one especially espoused by Mercer (1971). It calls for a pluralistic sociocultural perspective on the testing of minorities. This trend is consistent with the modified use of standardized measures of intelligence. Mercer's proposal would require that norms be developed for each sociocultural group within the ethnic group to which the individual belongs on the basis of family characteristics. An individual's IQ would be determined and interpreted in relation to norms developed for his or her own sociocultural group. In this way, intellectual subnormality (or superiority) would be associated with the lowest (or highest) scores for the individual's sociocultural group.

Samuda's fifth trend departs from traditional testing and deficit models. It involves the development of new measures consistent with the special language characteristics of minority individuals. It is more in line with the differences model referred to by Bruch. Labov (1971) and other advocates of this trend contend that tests using Standard English can only judge the abilities of individuals accustomed to using Standard English, that nonstandard vernacular is not in itself an obstacle to learning, and that the use of formal speech patterns does not necessarily coincide with logical thought. Another major argument is that such tests would enable culturally different children to respond to tests with less anxiety or emotional threat.

The sixth and last trend identified by Samuda emphasizes description and prescription rather than prediction and selection. It departs from traditional testing, since it focuses on the descriptive, diagnostic, and qualitative analysis of behavior. Those who advocate this trend regard tests as a fundamental means for making education more accessible to culturally different students without penalizing a person for not belonging to the middle class mainstream culture. This trend implies an extension of existing tests and a broadening of the

varieties of competencies and skills assessed. Testing procedures would involve not only objective type items but also open ended probes designed to include atypical patterns and varieties of learning.

Unfortunately, Samuda's survey virtually ignored a vast array of work that has emerged largely among those who have been interested in discovering different kinds of giftedness using multitalent approaches (Bruch, 1971, 1973, 1974; Fredrickson & Rothney, 1972; Guilford, 1967, 1975; Meeker, 1969; Meeker & Sexton, 1972; Talents Unlimited, 1974a, 1974b; Taylor & Ellison, 1975; Torrance, 1970, 1971, 1974a, 1975). This work represents what might be regarded as two additional trends. One such trend is an emphasis on multiple talents and a resulting expansion of abilities beyond what is implied in Samuda's sixth trend. The other trend involves the search for abilities especially encouraged by culturally different groups.

MODIFIED TRADITIONAL PROCEDURES

A variety of attempts have been made to modify traditional measures of intellectual talent to make them more appropriate for use with culturally different students. These attempts range from translations into the language of the specific cultural group through modifications of instructions, the substitution of more appropriate stimulus materials, special scoring systems, elimination of time limits, and the like. Illustrations of these will be given and more complete information can be obtained from such sources as Samuda's (1975) *Psychological Testing of American Minorities: Issues and Consequences* and Buros's (1972) *The Seventh Mental Measurement Yearbook.*

Translations and Bilingual Editions

A number of traditional tests have been translated into Spanish and other minority group languages. Both the Wechsler Adult Intelligence Scales and The Wechsler Intelligence Scales for Children (Wechsler, 1951, 1968) are available in Spanish translations. Some tests have also been published in parallel English and Spanish editions. An example of this practice is the Inter-American Series: Test of General Ability (Manuel, 1967). A verbal score is obtained from the sentence completion and word relations subtests, a nonverbal score from the analogies and figure classification subtests, and a number score from the number series and computation subtests. Although reliability data are available, validity and normative data are reported as being weak (Samuda, 1975). (*Editor's note:* In the testing field, *reliability* refers to how well an instrument agrees with itself over time.)

Currently there are attempts by test makers to overcome some of the common weaknesses of translations of mainstream tests. Hardy

(1975) listed the following as the most frequently cited weaknesses of translations:

1. Translation does not eliminate items that are culturally biased.
2. Translations usually do not allow for local dialect variations.
3. Translations often affect item difficulty due to differences of lexical items across languages.

Hardy further illustrated how these weaknesses were at least reduced by the collaboration of bilingual educators in the Spanish translation of CIRCUS, an assessment of the needs of preprimary children.

Special Scoring of Strengths

Bruch (1971) suggested that traditional instruments such as the Stanford-Binet and Wechsler scales be scored so as to highlight the specific strengths of culturally different and disadvantaged groups. Most of her own work has been with the Stanford-Binet, and she has identified the strengths of Black, disadvantaged, gifted children. For purposes of screening and identification of gifted, Black, disadvantaged students, Bruch suggested using items designated as:

1. Space relations and tests in musical form.
2. Memory items on various tests of ability and achievement.
3. Logical reasoning or problem solving tests.
4. Tests involving all but verbal single units.
5. Tests requiring classification, particularly in space relations items.
6. Items requiring understanding of the integrated "whole" or total system, primarily of a figural nature.

Halpern (1973) reported somewhat similar results for southern Black people with the Wechsler scales. She found that this group scored best on the comprehension, arithmetic, similarities, and digits forward subtests. On the basis of her intensive work with southern Blacks and her familiarity with their experiences, she also offered a rationale for their poor performance on the other scales.

Mercer's (1971) approach (described earlier) is another variation of attempts to use traditional tests to make a more accurate estimate of the "true" potential of culturally different students. To accompany this approach to traditional tests, however, Mercer (1973) developed The Adaptive Behavior Inventory for Children to provide a measure of how well children have learned to adapt to their environment. In addition, Mercer also developed The Health History and Impairment Inventory as a further aid in interpreting psychometric information. This combined approach provides what Mercer terms a "System of Multicultural Pluralistic Assessment."

Adaptations in Verbal Content, Time Limits, and Instructions

In exploring possible traditional methods of assessment, the school psychologist or other talent searcher should not overlook altogether some of the old instruments that have adaptations for various kinds of handicapped persons. Some of these are expensive in terms of administration time, but there are occasions when such expenditures may be justified. The following are examples of a few such instruments.

1. *Arthur Point Scale of Performance Tests, Forms I and II* by Grace Arthur, 1947. Form I is available from Stoelting Company, 424 North Homan Avenue, Chicago, Illinois 60624, and Revised Form II is available from Psychological Corporation, 304 East 45th Street, New York, New York 10017. These are individually administered tests for the age range of 4.5 to superior adult. They can be administered to students with learning disabilities or defective speech, non-English speaking students, deaf students, and the like. Minimal use of language is required.
2. *Chicago Non-Verbal Examination* by A. W. Brown, 1963. There is only one form of this test, and it may be used for the age range of 6 to adult. It is available from Psychological Corporation. It is designed specifically for children handicapped in the use of the English language, such as deaf children, children with reading difficulties, and children with a foreign language background. The test may be administered with either verbal or pantomime instructions. The standardization sample included 30% foreign born.
3. *IPAT Culture Fair Intelligence Test: Scales I, II, and III* by R. B. and A. K. S. Cattel, 1963. Scale I is for elementary school ages; Scale II is for ages 8 through 13 and average adults; and Scale III is for grades 9 through 12 and superior adults. All scales are available in two equivalent forms from Institute for Personality and Ability Testing, 1602 Coronado Drive, Champaign, Illinois 61820. These scales were designed for use with persons having different national languages and cultures or those influenced by very different social status and education.
4. *Leiter International Performance Scale* by R. G. Leiter, 1965. This test is available in one form only from Stoelting Company. This is an individually administered, nonverbal test which may be used with persons ranging from age 2 to adults. It is appropriate for persons with speech and auditory handicaps, illiterates, the foreign born, and the educationally and culturally different because it is administered without language. Norms are available for a variety of culturally different groups, types of handicap, and the like.

5. *Raven's Progressive Matrices Test* by J. C. Raven, 1947. This is a group administered test available in a variety of forms and two levels from Psychological Corporation. The test consists of 60 designs, called matrices, all lacking a piece that the subject selects from a given number of alternatives. The matrices are arranged in order of increasing difficulty. This test has been widely used in England and in cross cultural research, and some users believe that it is especially effective in discovering high levels of giftedness in a variety of cultures. The test is primarily nonverbal; instructions are reduced to a minimum; and no time limit is imposed.
6. *Test of General Ability* by J. C. Flanagan, 1960. This is another group administered test and is available in two levels, one for grades 6 to 9 and the other for grades 9 through 12, from Science Research Associates, 259 East Erie Street, Chicago, Illinois 60611. It was designed as a measure of general intelligence and learning ability independent of school acquired skills such as arithmetic and reading. The publisher states that the test is appropriate for students from culturally different backgrounds. The examiner's manual has been translated into Spanish. In addition to traditional types of group intelligence test items, an attempt is made to assess ability to recognize relationships, systematize and relate new information to knowledge already possessed, understand relationships, and form concepts.

The six tests cited above are offered only as illustrations of tests that have built in adaptations designed to make them appropriate for use with culturally different students. No attempt has been made to provide a comprehensive list.

INSTRUMENTS THAT SEEM TO LACK CULTURAL BIAS

Most of the instruments already described, in spite of the various kinds of adaptations that have been made, appear to have racial and sociocultural biases. In fact, I am aware of only two instruments useful in identifying giftedness that seem to lack cultural bias, the Torrance Tests of Creative Thinking (Torrance, 1966/1974, 1971) and Taylor and Ellison's (1966) Alpha Biographical Inventory. Because of their apparent lack of cultural bias, both of these instruments will be described and discussed in terms of implications for the discovery of giftedness among culturally different groups.

The Torrance Tests of Creative Thinking

The Torrance Tests of Creative Thinking, Figural and Verbal Forms A and B (Torrance, 1966/1974) and other procedures my associates and I

have developed for assessing creative potential (Torrance, Khatena, & Cunnington, 1974) are open ended and permit students to respond in terms of their own experiences, whatever these may have been. Respondents are also encouraged to use whatever language or dialect they find most comfortable. The basic batteries are designed for use with the entire educational range from kindergarten through graduate and professional school. Thus far, these batteries have been translated and used in at least 25 different languages.

In these basic batteries, an effort was made to sample as many different types of thinking involved in creative behavior as economically possible. The figural batteries each consist of three 10 minute tasks, and the verbal batteries each include two 10 minute tasks and five 5 minute tasks, each sampling different kinds of thinking. In selecting tasks, an effort was made to choose tasks moderately related to one another but each related to criteria of creative behavior. An effort was made to use stimulus material equally familiar or equally strange to all cultural groups.

A considerable amount of validity evidence has been accumulated for these tests (Torrance, 1966/1974), linking test performance to real life creative achievement. In a review of 13 predictive validity studies (Torrance, 1972a, 1972b), childhood test performance seems to be linked with adult real life performance. In a long range predictive validity study involving high school students tested in 1959 and followed up in 1971, a canonical correlation of .51 was obtained. At certain grade levels, correlations in the .60's predominated.

A survey of several hundred studies (Torrance, 1967) indicated that the median coefficient of correlation between scores on the verbal tests of creative thinking is .21, and on the figural tests the median coefficient of correlation is .06. Over a period of about 15 years, a consistent finding has been that selecting the top 20% in IQ would mean the exclusion of 70% of the top 20% on tested creativity. Thus, the Torrance Tests of Creative Thinking identify a somewhat different group of gifted students than do tests of intelligence.

Whether one agrees or disagrees with the conclusions reached by Jensen (1969, 1972), Herrnstein (1973), and others on matters of intelligence, race, and socioeconomic status, the fact remains that there are racial and socioeconomic differences in measured intelligence and that these differences are fairly consistent. Appendix A is a survey of 20 independent studies of the effects of race and socioeconomic status on performance on the Torrance Tests of Creative Thinking. An analysis of the results of these 20 studies indicates that in 86% of the comparisons, the finding was either "no difference" or differences in favor of the culturally different group. In general, Blacks and disadvantaged groups appear to excel on the figural tests.

In formal school settings, there is a tendency for Blacks and disadvantaged groups to perform less well than mainstream, advantaged groups on the verbal tests. However, this does not seem to occur in studies conducted in certain sections of the United States (e.g., Wisconsin and Michigan). Even in those sections of the country where affluent, mainstream children excel on the verbal tests in formal school settings, this does not occur when the handicapping influence of writing, spelling, and language is eliminated.

The Torrance Tests of Creative Thinking also seem to assess abilities that are little influenced by heredity. For example, a study by Pezzullo, Thorsen, and Madaus (1972) found no evidence of hereditary variation in either the figural or verbal forms of the Torrance tests. Their subjects were 37 pairs of fraternal twins and 28 pairs of identical twins who were carefully tested. These investigators found that short term memory (Jensen's Level I abilities) has only a moderate index of heritability, .54; the general intellective factor (Jensen's Level II abilities) has a relatively high index of heritability, .85. The heritability index for the figural and verbal measures of the Torrance Tests of Creative Thinking approached zero. Another twin study by Richmond (1968) similarly found no evidence of heritability for the abilities assessed by the Torrance tests. Davenport (1967), using the Getzels and Jackson (1962) measures, did find weak evidence for heritability on most of these measures of creativity. The indications were so weak, however, that Davenport concluded that there was a wide margin in which experience could influence the creative thinking abilities.

Continued Refinement of the Torrance Tests

A number of scoring and administration innovations now being tested and validated may make the Torrance Tests of Creative Thinking even more useful than they now are in discovering giftedness among the culturally different. During the past four years, extensive work has been done on the development of streamlined methods of scoring that will require less time and provide more information concerning indicators of giftedness. The streamlining has been accomplished for the figural tests by eliminating the flexibility score, estimating the elaboration score on a five point scale for each task, and redefining originality as the number of uncommon responses. Additional information consists of scoring for degree of abstraction of titles, resistance to premature closure in the incomplete figures task, and combinations or syntheses in both the incomplete figures and repeated figures tasks; the use of checklists for the occurrence of expressions of feeling and emotion; articulateness in telling a story

through drawings and titles, movement and action in drawings, expressiveness of titles, unusual visual perspective in drawings, internal visualization in drawings, humor in titles and drawings, and quickness of warm-up. On the basis of the literature on creative giftedness, each of these indicators seems to be characteristic of high achievers. Some of them (e.g., unusual visualization and synthesis) have been validated in longitudinal validity studies (Torrance, 1972a, 1972b), and further studies are now under way.

In using the streamlined scoring, one may use the additional information only to provide cues of strengths that may be used in planning learning activities, or scores may be combined into an index, which theoretically reflects a summation of the creative energy displayed by the respondent. On the basis of present information, this index seems to provide a better indicator of giftedness than does standard scoring.

Over a period of 10 or more years, my students and I have experimented with a variety of warm-up procedures in administering the Torrance Tests of Creative Thinking (Aliotti, 1969; Arnold, 1975; Nash, 1971; White, 1975). The results thus far indicate that a variety of different kinds of warm-ups might require too much time, and the procedures used by Aliotti, Nash, and Arnold were fairly elaborate. However, White's more recent studies indicate that each of three rather standardized warm-ups of less than 10 minutes (movement, drawing, and verbal brainstorming) is effective in administering the figural tests.

Most of the experimentation with permitting respondents to the Torrance Tests of Creative Thinking to use the language or dialect with which they are most comfortable has been informal. The observed effects seem to be quite dramatic, however, and the practice seems to be supported by a considerable body of research and observations that indicate culturally different students are quite articulate in peer and informal situations, whereas they are quite nonverbal and inarticulate in formal school situations and with adults. In a study of the creativity of bilingual adolescents, Carringer (1974) found that permitting responses in both languages (English and Spanish) facilitated higher levels of creative thinking. The students reported that when they felt they were running out of ideas they would shift to the second language and a new flow of ideas would begin.

The setting in which creativity tests are administered seems to make a difference. Culturally different youngsters seem to be especially sensitive to the quality of test settings. Much informal experience and at least one careful experiment (Elkind, Deblinger, & Adler, 1970) with similar tests indicate that children perform less well on

creativity tests when they are interrupted while engaged in an uninteresting task. Most of the studies manipulating the degree of formality-informality of the testing situation (Boersma & O'Bryan, 1968; Van Mondfrans, Feldhusen, Treffinger, & Ferris, 1971) favor informality and a relaxed atmosphere. The evidence concerning the use of background music is unclear (Hopper & Powell, 1970; Norton, 1971). Experiments with culturally appropriate music are needed, however. The use of "cue rich" testing environments (testing rooms containing rich arrays of objects), however, seems to enhance performance (Mohan, 1970). However, low creatives (Mohan, 1970) and preprimary children (Ward, 1969) do not seem to be helped by a testing environment rich in cues. In our creativity workshops with Black children, I have found that an informal, creative environment produces high scores on the verbal tests, whereas such children perform very poorly on these tests in formal school situations.

While the printed instructions for the Torrance Tests of Creative Thinking seem to be appropriate for a wide range of groups, instructions involving a simpler, less elaborate language structure seem to be more facilitative of creative thinking among children from disadvantaged or culturally different backgrounds. The reason for this seems to be that the less elaborate language structure is less difficult for the culturally different respondent to translate, and it is rather well known that the language of children from lower socioeconomic families is less elaborate than that of more affluent or middle class children (Bernstein, 1964). Kaufman (1975) cautioned against using instructions involving unmastered concepts in administering all types of tests to young disadvantaged children.

Obviously, there is a need for continued experimentation to determine optimal testing procedures to use in discovering giftedness among culturally different students and to adopt optimal procedures in practice. Perhaps to an unprecedented degree, the Torrance Tests of Creative Thinking are experiencing such experimentation, not only by the author and his students but by other researchers as well.

The Alpha Biographical Inventory

A number of autobiographical or life experience inventories have been developed for use in studies of creative behavior (Anastasi & Schaefer, 1969; Dauw, 1965; Taylor & Ellison, 1966/1968). Since individual differences in creative thinking abilities seem to be explainable in terms of experiences rather than heredity, this seems to be a reasonable approach. Furthermore, measures derived from biographical information seem less susceptible to influences of time limits, testing conditions, motivation, and mood swings than tests of intelligence, creative thinking ability, and the like.

Of the life experience inventories that have been used in the prediction of gifted performances, the ones developed by Calvin W. Taylor and his associates are perhaps the best validated (Ellison, 1964; Lunneborg, 1971; Taylor, Cooley, & Nielsen, 1963; Taylor & Ellison, 1967, 1975). Of the various versions of the biographical inventory, the Alpha Biographical Inventory (Taylor & Ellison, 1966/1968) offers perhaps the most promise in identifying giftedness among the culturally different. It is most appropriate for use with senior high school students or college freshmen. Present scoring procedures provide two indexes: academic giftedness and creative giftedness. Studies involving large samples of White and Black high school students (Taylor & Ellison, 1967, 1975) indicate that there are no racial differences on the creativity index and that racial differences on the academic index are quite small. While further validation and use with a variety of culturally different groups are required, the instrument seems to have sufficient merit to recommend it for use in discovering giftedness among such groups, at least on an experimental basis.

OTHER POSSIBLY UNBIASED MEASURES

It is quite possible that there are a number of other existent measures that are relatively free of racial and socioeconomic bias. However, data to support this contention for other instruments are not readily available. Several participants in the First National Conference on the Disadvantaged Gifted held in 1973 looked to Guilford's Structure of Intellect Model to provide such help (Fitzgerald, 1975). These participants included Meeker, Hatch, Bruch, Gowan, and others.

Meeker at this conference reported a study in which Black, Chicano, and Anglo disadvantaged boys were tested on the Binet for patterns of intellectual abilities defined by the Structure of Intellect Analysis of the Binet. She compared a group ranging in age from 4.9 to 5.9 years with a group ranging in age from 7 to 10 years. She found that each of the ethnic groups had certain intellectual strengths, but that schooling did little to develop these strengths further. For example, she found that the Chicano group entered with strengths in all figural cognitive and most semantic cognitive materials and figural evaluation. The Black students entered with strengths in memory for systems and implications, cognition skills except for transformations of figural thinking, divergent production, and convergent figural production. The disadvantaged White group showed strengths in figural cognitive thinking, memory for symbolic implications, figural evaluation, divergent production implications, and most of the convergent production abilities.

Bruch at this same meeting reported similar analyses of the Binets of 1,800 Black children tested by Kennedy, Van de Riet, and White (1963). The strengths identified for Blacks were listed earlier in this monograph. To identify gifted Black children, Bruch recommended this special scoring of the Binet and the figural form of the Torrance Tests of Creative Thinking, plus observations of strengths in the following areas:

1. Art and music.
2. Spontaneous recall, extensive listing from memory.
3. Complex problem solving in practical daily activities.
4. Awareness of details in descriptions, fluency of ideas, spontaneous categorizations.
5. Visual synthesis in complex drawings; multiple musical or kinesthetic perceptions of the whole organized system.

At this same conference, Hatch described a procedure he developed, using six of Guilford's factors as the basis. These factors are sensitivity to problems, fluency, flexibility, originality, elaboration, and redefinition. The conference report did not give information about Hatch's results.

The vast literature on Guilford's Structure of Intellect measures does not provide much information about the racial, socioeconomic, and cultural biases of these measures (Guilford, 1967). In the manual for his creativity test for children, Guilford (1971) gave some information concerning Black and Chicano groups. He reported that the mean scores of the minority groups were generally lower than those of the majority group. However, both the Black and the Chicano groups held their own in the different letter groups subtest, and the Chicanos excelled in the adding decorations subtest.

At the National Conference on the Disadvantaged Gifted, Gowan emphasized the importance of the identification, stimulation, or exploitation of what he termed "exotic factors of intellect." He defined exotic factors of intellect as those abilities not usually considered in intelligence tests. More and more attention is now being given to such exotic factors of intellect as psychic abilities, extrasensory abilities, and the like. In the field of gifted education, Krippner (1963, 1965) was one of the first to call attention to these abilities. More recently, Gowan's (1974, 1975) work was marked by this emphasis. Growing interest is also reflected by articles in popular journals (e.g., Peterson, 1975). At the National Conference, Gowan expressed the belief that as better and newer tests of the exotic factors of intellect are developed, better methods of identification will make it possible to find more able disadvantaged children.

Another alternative approach which may produce instruments that will help discover giftedness among the culturally different is Calvin W. Taylor's Multiple Talent Evaluation (Taylor, 1968a, 1968b, 1969). The theoretical rationale for this approach provides the guidelines for both talent identification and talent development. Highly successful applications of this idea have been reported in Salt Lake City, Utah (Stevenson, 1971), Mobile, Alabama (Talents Unlimited, 1974a, 1974b), and St. Paul, Minnesota (Brannes & Juntune, 1975). The Multiple Talent Approach (Taylor, 1968a) is based on the recognition that, as a general rule, not all gifted persons excel in the same talents. Taylor's work was based on the following six talent groups: academic, productive thinking (creative), planning, communication, forecasting, and decision making.

If each talent group is conceived as arranged on a ladder or totem pole, it will be found that those persons at the top of one ladder are essentially different ones than those at the top of another ladder. Some of those at the top of one ladder may actually be rather low on some of the other ladders. Taylor argued that the more different talents considered, the larger will be the proportion of gifted persons in a group. With his six talent areas, he argued that 98% of the children in most classes would be above average in at least one talent. Similarly, at higher levels of talent, a large percentage of students would be identified as highly gifted. Taylor argued further that teachers should teach in such ways as to develop all of these abilities. One of the most elaborate sets of materials thus far available to implement this approach was developed by the Talents Unlimited Project at Mobile, Alabama. It includes examples of criterion referenced tests, curriculum guides, inservice education materials, guides for parents, and the like. The tests and materials developed by Taylor himself apparently are not yet available commercially. Data concerning racial, socioeconomic, and cultural groups were not located.

CULTURE SPECIFIC PROCEDURES

Disillusioned by the failures of traditional and "culture free" tests to discover giftedness among the culturally different, a number of workers advocate turning to culture specific procedures. One of the most serious and vocal representatives of this group is R. L. Williams (1972a, 1972b, 1974), who devised the well known BITCH test (Black Intelligence Test of Cultural Homogeneity). Williams argued that psychologists have known for many years that ability tests are biased in favor of White, native born American children, the population on which they were standardized; yet these tests continue to be

administered to Black children. He argued further that these practices violate the three basic principles on which psychometric instruments are based: validity, reliability, and standardization. (*Editor's note: Standardization* refers to (a) the practice of making sure that all takers of a given test do so under similar conditions, and (b) the process of establishing norms so that test scores come out as percentiles, i.e., test takers are ranked by comparing their performance to others.) He also argued that the educational curriculum is biased in the same way and that Black children show a readiness for learning early in life, but for different sets of learning materials. Their early preparation is for independence and survival rather than academics.

The BITCH test consists of 100 multiple choice questions to be answered as Black people would answer them. Most of the questions are based on vocabulary unique to Black culture in the United States. However, much of the vocabulary is also common in other disadvantaged groups. Williams maintains that almost all Blacks attain scores higher than almost all Whites. This has also been found true among graduate students at the University of Georgia. Lowest of all are the scores of the foreign students who have had even less exposure to Black culture than have native born Whites.

Williams is now developing the BITCH test further, along with similar tests such as the Awareness Sentence Completion Test (Williams, 1972c) and Themes Concerning Blacks (1972d). Very similar to the BITCH test was an earlier instrument developed by Adrian Dove (1974), originally published in *Jet* and later reprinted in books of readings (e.g., Davis & Warren, 1974).

The basic idea espoused by Williams is now being used in a number of developmental projects that may eventually produce assessment procedures effective in discovering giftedness among the culturally different. Two of these (Bernal, 1975; Bernal & Reyna, 1974; Stallings, 1975) will be described here briefly.

Bernal's project (Bernal & Reyna, 1974; Bernal, 1975) was designed to explore new means of identifying giftedness among native, Spanish speaking, Mexican Americans. As a part of this project, Bernal and his staff interviewed people in Mexican American communities concerning their views of gifted behavior. It is on the basis of the latter data that Bernal proposed the development of testing and observation techniques to discover giftedness among Mexican American children. Prominent among the indicators of giftedness reported by interviewees are the following:

1. Is unusually mature and responsible for age.
2. Is a great imitator and elaborator of adult behavior.
3. Is regarded as a leader, quiet but influential.
4. Makes suggestions that are valued by peers.

5. Is frequently called upon to mediate disputes, plan strategy, and so forth.
6. Is quick to grasp and anxious to try out new ideas.
7. Pursues ideas with persistence.
8. Initiates and maintains meaningful transactions with adults.
9. Possesses facility in acquiring English.

While Bernal believes that certain intellectual factors may be more profitably explored in some populations than in others, he advocates that existent selection practices should not be replaced but should be supplemented by culture specific observations such as the ones listed. (*Editor's note:* A summary of Bernal and Reyna's paper "Analysis and Identification of Giftedness in Mexican American Children: A Pilot Study" has been published in *A Resource Manual of Information on Educating the Gifted and Talented*, Reston VA: The Council for Exceptional Children, 1975, pp. 53-60.)

The selection procedures advocated by Stallings (1975) were designed to discover giftedness among children whose experiences have been limited to an 8 to 10 block radius in an urban community. However, they might be adapted for use even in isolated rural areas. His methods include environmental testing, teacher observation, and peer evaluation gathered by class feedback in the form of a sociogram. Students in each classroom are evaluated separately. Stallings reported that the one consistent criterion that teachers may use in identifying gifted students is the depth to which the student is able to respond to environmental matters. For example, students are asked to recall street signs or types of automobiles found on the block or to give details about things that happened in the neighborhood. Much of the procedure is based on the assumption that allowing students to work with familiar or meaningful materials will increase the gifted student's ability in abstract thinking.

Creative Positives: A Nonpsychometric Approach

□ There have always been many educators who believe that testing is an inappropriate way of evaluating human abilities. More recently, even former advocates of testing have begun to wonder if testing is an obsolete way of discovering giftedness. In the present context of national and international developments relative to gifted and talented education, it is easy to understand why such feelings should arise. We are now beginning to accept the pluralistic nature of our society and to recognize that differences are not necessarily deficits, as members of our dominant culture had once assumed. The complexities arising from this recognition have already become obvious in this monograph. Furthermore, we have also become committed to an enlarged concept of giftedness.

AN ENLARGED CONCEPT OF GIFTEDNESS

The Office of Gifted and Talented in the United States Office of Education has recognized the following six categories of giftedness (Marland, 1972):

1. General intellectual ability.
2. Specific academic aptitude.
3. Creative and productive thinking.
4. Leadership ability.
5. Visual and performing arts.
6. Psychomotor ability.

Discussion has hardly begun about ways of identifying the last three categories of giftedness. The lack of psychometric procedures, if not their inappropriateness, became apparent in a national conference on the gifted/talented in the arts and humanities.

Although I discovered early in my study of creative talent that the use of tests can make teachers, counselors, and psychologists aware of kinds of giftedness that would otherwise be overlooked, I recog-

nized that tests could never detect all types of creative giftedness. Thus, I began writing in 1962 about nontest ways of identifying the creatively gifted (Torrance, 1962). When I became concerned about talent identification and development among economically disadvantaged and culturally different students, the need for nontesting ways of assessment became even more obvious (Torrance, 1964, 1965b). I still think that some of the guidelines developed at this time would be useful in discovering and nurturing giftedness among the culturally different. However, I think the more recent conceptualization I have developed provides a more comprehensive system for both the discovery and nurturance task than did my earlier work.

RECOGNIZING AND USING CULTURAL STRENGTHS

This recent conceptualization is based on a realization that people are motivated most to do the things that they do best. Thus, its central thesis has been that programs for gifted, culturally different students must be built upon their positives. Furthermore, I am convinced that the positives of culturally different groups are their creative abilities. Members of these groups have had to maintain their creativity in order to adapt and survive. My proposed solution has been that in searching for giftedness among the culturally different we seek by whatever means possible to identify their creative positives and then use these characteristics as positives in educational programs and in career development.

This position, of course, runs squarely into several deeply entrenched prejudices among educators, since it departs sharply from usual frames of thinking and rejects solutions that represent "more and better of the same." Some argue that I am only kidding myself when I maintain that there are any real strengths among the culturally different. Others complain that it is a condescending point of view and assumes that members of culturally different groups cannot be brought up to the standards of dominant middle class culture. Still others complain that identifying the strengths of culturally different groups only establishes another set of stereotypes. These prejudices have persisted because people have failed to recognize that differences are not necessarily deficits (Torrance, 1974a) and that many differences may actually be good for all concerned.

In my estimation, it is less condescending to recognize a person's strengths and to encourage their use in learning and in developing a career than it is to insist that a person ignore those strengths and work to develop some ability that may not be valued by that person's culture. On the charge of establishing a different stereotype, I would contend that a program of identifying and using a group's strengths

need not lead to stereotyping. It recognizes that not all members of a specific culturally different group will have the same strengths. It simply means that if the strengths that characterize a culturally different group are known, success in discovering giftedness will be greater than if it is sought in areas in which the members of this group are weak. If this is stereotyping, it is at least a positive rather than a negative stereotype and should lead to constructive solutions.

I was led to my conceptualization of the creative positives by a recognition that the abilities and talents that flourish in any culture are the ones that are encouraged or honored by that culture. It is no new idea that culturally different groups in the United States have unique strengths. W. E. B. DuBois emphasized the strengths of Blacks in several of his books and in *The Gift of Black Folk* (1970) summarized the outstanding contributions of Blacks in exploration, invention, scientific discovery, art, literature, and music. An interesting plea for more respect for the strengths of American Indians is found in a speech by Chief Standing Bear made about 1877 (cited in Anderson & Wright, 1971). Chief Standing Bear was chief of the Oglala Sioux and protested the forced movement of the Lakotas from Nebraska to Indian Territory in Kansas in 1877. His plea, in part, was as follows:

> The attempted transformation of the Indian by the white man and the chaos that has resulted are but the fruit of the white man's disobedience of a fundamental and spiritual law. The pressure that has been brought to bear upon the native people . . . in the attempt to force conformity of custom and habit has caused a reaction more destructive than war, and the injury has not only affected the Indian, but has extended to the white population as well . . . . (p. 130)

Fortunately, there seems more readiness now than ever before to respect and use the strengths of American Indians in art, music, dance, government, and even religion (Deloria, 1970).

The consequences of failing to recognize and use the strengths of culturally different students are illustrated in experiences a few years ago with Youth Development Programs. Nathan Caplan's (1973) study indicated that the street skills of many hard to employ youths hindered success in the job training of the Youth Development Programs. Caplan's study grew out of the repeated failures of these programs. Many people connected with them had said that these programs had failed because the participants were unmotivated and unskilled. Caplan concluded that the programs failed because the participants were highly motivated and highly skilled. These youth were, like most people, motivated to do the things that they could do best. The trouble was that the skills which they had mastered so well are those that insure their social sufficiency and survival within the ghetto community. Unfortunately, the skills that make a person gifted

on the street—hustling, rapping, signifying, gang leadership, psyching out people, fighting, athletics, and so forth—may make the person a failure in "straight" jobs.

Caplan argued, for example, that being tough and cool are often important traits among inner city youths, but in the normal working environment such behaviors might be unacceptable signs of hostility and uncooperativeness. Similarly, competitive verbal games common in the ghetto would do little to endear youths to middle class supervisors. Caplan argued further that, more importantly, to succeed at a straight job a gifted inner city youth must often sacrifice too much of his or her personal worth and dignity. Thus, to enter the kind of job program offered by the Youth Development Program meant to many youths that they must pay a painful psychological price: the abandonment of a healthy, positive self image gained through their giftedness with street skills.

CREATIVE POSITIVES AMONG THE CULTURALLY DIFFERENT

Caplan recognized that the more talented a young person is in his or her culture, the more challenging is the problem of providing meaningful, useful job training. The obvious place to start is to obtain information about the existing skills or strengths of these youths. Then efforts must be made to change training programs to fit the needs of the students rather than the other way around. On the basis of studies involving the Torrance Tests of Creative Thinking, a series of summer workshops involving mostly culturally different students, and the work of others such as Riessman (1962), I believe I have identified a set of characteristics that helps to guide the search for the strengths of culturally different students and for giftedness among such students. I have called these characteristics *creative positives*.

I must first caution the reader that not all members of culturally different groups are gifted in all of these positives. I do contend that these creative positives occur to a high degree among culturally different groups generally and that more gifted youngsters will be found among them on this basis than if the search is confined to traditional areas. This list of creative positives is not limited to those characteristics that have to be detected by psychometric devices. They may be detected by tests, observations of behavior, performances, constructions, or any means whatsoever. For the most part, I am talking about abilities that can be observed with a high degree of frequency among culturally different students by anyone who is willing to become a sensitive, open minded human being in situations where trust and freedom are established. I have given the following labels to these

creative positives, but readers may be able to think of more appropriate ones:

1. Ability to express feelings and emotions.
2. Ability to improvise with commonplace materials and objects.
3. Articulateness in role playing, sociodrama, and story telling.
4. Enjoyment of and ability in visual arts, such as drawing, painting, and sculpture.
5. Enjoyment of and ability in creative movement, dance, dramatics, and so forth.
6. Enjoyment of and ability in music, rhythm, and so forth.
7. Use of expressive speech.
8. Fluency and flexibility in figural media.
9. Enjoyment of and skills in group activities, problem solving, and so forth.
10. Responsiveness to the concrete.
11. Responsiveness to the kinesthetic.
12. Expressiveness of gestures, body language, and so forth, and ability to interpret body language.
13. Humor.
14. Richness of imagery in informal language.
15. Originality of ideas in problem solving.
16. Problem centeredness or persistence in problem solving.
17. Emotional responsiveness.
18. Quickness of warm-up.

In the remainder of this monograph, I shall offer some suggestions for identifying strengths in each of the above 18 areas and for using these strengths to motivate learning, select learning experiences, and develop career plans. Obviously, much work remains to be done to implement this idea fully. If it is to be implemented, however, this work must be done by those who are concerned with giving an equal chance to gifted youngsters from culturally different groups.

Ability to Express Feelings and Emotions

Discovery: I suggest that giftedness in expressing feelings and emotions may be discovered by:

- Observations of facial expression and body gestures.
- Analysis of samples of creative writing, especially poetry.
- Observations of behavior in discussions, classroom meetings, role playing, sociodrama, creative dramatics, dance, creative movement, music, and rhythm.
- Study of visual art products and the processes used in their production.

- Observations of response in creative reading.

Unless students are provided learning experiences in which they can manifest their giftedness in expressing feelings and emotions, this type of giftedness is not likely to be discovered. There are few standardized tests that will help. Some of the newer tests in creative dramatics and creative movement might be of help, but they have been designed with other purposes in mind and will be discussed in connection with strengths in dramatics and creative movement. Some of Guilford's Structure of Intellect tests (Guilford, Hendricks, & Hoepfner, 1968) involve the interpretation of emotions and feelings but not their production.

Importance: Middle class society in the United States has tended to derogate emotional expression, and education has stressed objectivity and suppression of emotional experiencing. The emerging youth culture, however, seems to have set in motion a trend in the direction of greater subjective, emotional experiencing through its search for understanding and a deeper kind of knowing. Furthermore, many theories of creative achievement maintain that in creative thinking, especially when this thinking leads to really new ideas and concepts, the emotional and suprarational are important. All admit, of course, that once the breakthrough ideas are produced, they must be subjected to tests of logic. However, the breakthrough ideas themselves cannot be produced by logic.

It is obvious that emotional expression is an important component in all kinds of creative performances in music, acting, writing, dance, and the visual arts. It also seems clear that emotional expression is an important aspect of the ordinary functioning of the healthy, fully functioning human being. It may be that emotional expression has been a more important aspect of living in some culturally different groups than it has been in mainstream society. Numerous scholars of Black culture (DuBois, 1970; Halpern, 1973; Smith, 1949) have seen emotional expression as a survival technique of Blacks in the United States. Chief Standing Bear (cited in Anderson & Wright, 1971) in his protest speech commented on the Indian's need for emotional expression:

> And the Indian wants to dance! It is his way of expressing devotion, of communing with unseen power, and in keeping his tribal identity. When the Lakota heart was filled with high emotion, he danced . . . . When his heart was filled with pity for the orphan, the lonely father, or bereaved mother, he danced. All the joys and exaltations of life, all his gratefulness and thankfulness, all his acknowledgments of the mysterious power that guided life, and all his aspirations for a better life, culminated in one great dance—the Sun Dance. (pp. 133-134)

Evidence among the Culturally Different: Since there is a general lack of objective indicators of emotional expression, one is not likely to find much evidence in scientific research for this talent as a strength of culturally different groups. I can only say that this is one of the most frequently observed of the creative positives when my students record their observations of culturally different children in our summer workshops, and that emotional expression has characterized and continues to characterize the artistic performances of the culturally different. Lillian Smith (1949), in *Killers of the Dream*, commented on the paradox that among the dominant free of the rural South creative talent was so fettered by anxiety that it could not be expressed, while among segregated Blacks creative talent burst forth spontaneously and found expression in the artisan trades, music, dance, and athletics—things that could be done with their bodies, feelings, and emotions. Emotion as characteristically expressed in the dance of Indians is reflected in the previous quotation from Chief Standing Bear. In counteracting the perception that all Indian songs are alike, Chief Standing Bear pointed out that Indian songs are as varied as the many emotions that inspire them and that no two are alike. Chicanos are also known for the emotional quality of their dances, song, music, and art (Steiner, 1970).

Use in the Curriculum: In my work on creative reading (Torrance, 1970), I have maintained that students do not really comprehend literary works unless they respond to them emotionally and express their feelings through movement, dramatics, drawing, or some other mode. I believe that such emotional experiencing and expression adds importantly to the understanding and information that one obtains from reading.

Brandwein (1974), in his innovative program in the humanities, maintained that it is this expression of feeling and emotion that makes reading, learning to spell, and the like seem worthwhile to students. Many of the teachers who write me concerning their experiences, in creative writing and art especially, tell me that it is this expression of feeling and emotion that enables some of the culturally different students they teach to maintain their sanity.

Use in Developing Careers: It would be impossible to list all the uses of giftedness in emotional expression in building careers among the culturally different. It is an obvious component of many of the outstanding careers of culturally different persons now valued highly by our culture. The following, however, are examples of careers that seem to call for this kind of giftedness: actor, artist, composer, dancer, master of ceremonies, musician, poet, religious leader, salesperson, singer, song writer, therapist.

Ability to Improvise with Commonplace Materials

Discovery: The following observation checklist is suggested for identifying giftedness for improvisation with common materials:

- Makes toys from commonplace materials.
- Uses common materials to modify toys.
- Makes games from common materials.
- Uses common materials for unintended uses at home.
- Uses common materials for unintended uses in school.
- Uses common materials in inventions.
- Uses common materials in creative dramatics, art, and so forth.

The unusual uses tests in both the Torrance and Guilford batteries appear to be fairly effective pencil and paper measures of this kind of talent. It should be noted, however, that culturally different children must be made comfortable and must be permitted to use their usual language or dialect in responding in order for this test to yield a reliable measure. With children, an adult must record the responses, or spelling and writing skills may interfere with performance.

Importance: The autobiographies of people who have made outstanding breakthroughs in almost every field are filled with examples of incidents of improvisation with common materials. A person working in a frontier field is likely to encounter a lack of appropriate equipment. If a person has to wait for someone to manufacture the proper equipment, that person is not likely to make a breakthrough. The value of this talent is demonstrated in the case of Bracie Watson, a young Black man from Alabama, who won the top award of the International Science Fair in 1968 ("1968 International Science Fair," 1968). He has continued to astonish scientists with whom he works. Edward M. Weller, an embryologist in the University of Alabama's Anatomy Department, said of him:

> Bracie is an improviser, and he can see things spatially. In that area he has extraordinary creative possibilities. He isn't one of those people who need shiny instruments to do their work. He can generally create what he needs from very simple crude implements, and this talent alone will pay off for him time and time again. ("1968 International Science Fair," 1968)

Evidence among the Culturally Different: Apparently this ability is plentiful among almost any group of culturally different youngsters, especially disadvantaged ones. Rather consistently, we have found that members of culturally different groups score high on the unusual uses tasks of the Torrance Tests of Creative Thinking. Students in our summer workshops also report a high frequency of this kind of behavior among culturally different children. Middle class teachers

also seem to be more aware of this strength among the culturally different than of any of the other creative positives. Among inservice teachers in a middle Georgia county, 47% checked this as a strength of Black, disadvantaged children, whereas most of the strengths were recognized and/or accepted by only about 10% of these teachers. After an extensive workshop on the psychology of disadvantaged children, 92% of them checked this strength. Among undergraduates in teacher education programs, 82% recognized this strength as characteristic of Black, disadvantaged children.

Improvisation with commonplace materials among Indians is a widely recognized talent. I first became really aware of this when I directed a program of research in support of the United States Air Force Advanced Survival Training School. A large part of the curriculum was based on Indian techniques of improvisation in living off the land. Of course, the Indian culture that existed when the colonists came to the United States improvised practically everything they did—farming, food growing and collecting, cooking, warfare, sports, and so forth. Evidence of this talent may still be observed in their arts and crafts.

The literature concerning almost all the culturally different groups in the United States is filled with examples of improvisation with common materials. For example, Jan Yoors (1967) described many examples of such improvisation among the Gypsies with whom he lived for 10 years, beginning at about age 12. One of his first startling observations was that Gypsy children had no toys. They improvised, however, all kinds of games and sports. The same is true of other economically disadvantaged groups. If there are no toys, children will improvise with what they have; if items for living are unavailable, children and adults will improvise with what they have.

Use in the Curriculum: Teachers apparently give more opportunities in the curriculum for using improvisation with common materials than they do for any of the other creative positives. Such possibilities arise, for example, in arts and crafts projects, dramatics, social studies projects, and shop projects. However, this talent can be used in almost any subject in the curriculum if there is freedom for experimentation and if children are confronted with real problems.

Use in Developing Careers: Although talent for improvisation with common materials can be an asset in almost any career, this type of giftedness should be especially useful in attaining success in such fields as: crafts worker (wood, metal, etc.), impromptu actor, inventor, product developer, scientist, stage scenery designer/builder, toy maker.

Articulateness in Role Playing and Story Telling

Discovery: Giftedness in role playing and story telling may be observed among culturally different students in learning activities involving role playing, sociodrama, and related techniques. Such talent becomes evident when the role playing becomes very absorbing and lifelike. Fresh ideas arise in the sociodramatic processes, and students respond to one another at a deeply empathic level. In story telling, the interest of the group is aroused and sustained. The students become quite absorbed as one event inspires another and the problem solving processes become complex.

Role playing and improvisation tests have been devised by Moreno (1946, 1969) and others, but a sensitive and alert teacher, school psychologist, or sociodramatic director can discover this kind of talent in the regular course of instruction when this methodology is used. It requires a bit more alertness to become aware of the real life role playing used by many culturally different students as a survival or adaptation technique. However, this may be the "real test."

Importance: Since role playing (especially as used in sociodrama) and story telling fundamentally are creative problem solving processes, this kind of talent is important in achievement, just as creative problem solving skills are important. There are numerous careers that specifically require this kind of talent for success.

Evidence among the Culturally Different: Scholars in education, sociology, and psychology have often noted the high frequency of outstanding talent in role playing and story telling among culturally different students. For example, Riessman (1962), Deutsch (1967), and others have pointed out that disadvantaged children who seem to be nonverbal will become quite verbally articulate in role playing. Black entertainers have been especially noted for their role playing and story telling skills, from Uncle Remus to Flip Wilson. The Black folk tales brought from Africa and adapted to the slave scene illustrate the cultivation of both role playing and story telling skills. Frequently, the adaptations were used to communicate something about slave masters (Lester, 1972), yet the stories were entertaining even to the slave masters who did not understand the hidden meanings. Florence Halpern (1973) and others have commented upon the lifelong process by which Black children are taught to play roles (pretending to feel and think differently from the way they actually do) as one of their many survival techniques in the "White world." Perhaps to a lesser extent, this has been true of other culturally different groups such as Chicanos, Indians, and Gypsies.

Use in the Curriculum: Many writers in education (e.g., Lippitt, Lippitt, & Fox, 1964; Riessman, 1962, 1968; Taba & Elkins, 1966) have commented on the effectiveness of role playing with the culturally different in teaching subject matter, skills training, and problem solving. Taba and Elkins, for example, recommended role playing as a methodology for making reading materials meaningful and exciting to culturally different children, for teaching problem solving skills, and for other kinds of skills training. Allen (1968) recommended it as a way of teaching English as a second dialect. Riessman (1968) believed it to be an effective teaching methodology with the culturally disadvantaged because it is congenial with their physical, down to earth, concrete, group centered, problem directed style of learning. It is like a game rather than a test, easy and informal in tempo.

Use in Developing Careers: The career of television entertainer Flip Wilson provides an excellent illustration of how the creative positive of story telling in childhood can be used as the basis for a great career. Many who know Wilson's life story marvel that he is able to radiate such love and good will. They recognize that he has every right to be bitter.

Some of the many kinds of careers in which this talent is important include: actor, detective, entertainer, playwright, politician, religious leader, short story writer, storyteller, writer of children's books.

As with most of the other creative positives, skills in role playing and story telling do not always bring joy to the culturally different student. Regardless of the dynamics responsible for the emergence of this kind of talent among the culturally different, it can be used as a strength in facilitating learning and in developing careers for them.

Enjoyment of and Ability in Visual Arts

Discovery: Although there are tests to discover giftedness in the visual arts, research literature does not reveal much of great value. Visual art products are so easy to obtain that most searchers for talent in the visual arts have been willing to rely upon judgments of products such as drawings, painting, and sculptures. As an observational screening device for surveying talent in the visual arts, the following checklist is suggested:

- Experiences real joy in drawing.
- Experiences real joy in painting.
- Experiences real joy in sculpture.
- Becomes deeply absorbed in drawing, painting, sculpture, or other visual art activity.
- Understands subject matter by "drawing it" (e.g., illustrates stories, illustrates history, draws biological objects, makes maps).

- Communicates skillfully through drawings, paintings, sculptures, and other visual arts.
- Captures the essence of whatever is photographed.
- Makes photographs tell a story.

Importance: Many scholars in the field of creative achievement believe that visual artists have been and always will be the forerunners of human advancement. They point out that the visual artists must show the possibilities of the future before anyone can pioneer breakthroughs in almost any field. Certainly, the visual mode of finding out and communicating is powerful, and most people depend heavily on it.

Evidence among the Culturally Different: Again, one of the creative positives most frequently reported by my students when they observe disadvantaged, Black children in our summer workshops is the high level of enjoyment and ability that these children show for the visual arts. A disproportionately large number of children gifted in this area have always been found. Similarly, workers in our creativity test scoring service are almost always amazed at the outstanding talent demonstrated by the Chicano students whose figural creativity booklets they score. Other groups such as Alaskan Eskimos and Indians, Appalachian Whites, and other culturally different groups are famous for the artistic quality of their carvings and craft products. DuBois (1970) in *The Gift of Black Folk* asserted that the Black is primarily an artist and traced the long history of important contributions of Blacks in the visual arts. There are today a large number of outstanding Black artists, Chicano artists, Puerto Rican artists, and Indian artists. Some outstanding photographers like James van der Zee (DeCock, McGhee, & Perry, 1973) and Gordon Parks (1975) have also come from culturally different groups. Among numerous signs of the increasing appreciation of the art of disadvantaged groups is the recent impact of Indian art on current fashions in clothing ("Fashions from Indians," 1976). Somehow, dress designers have long missed the potential of authentic Indian design for modern fashion. There is a strong trend now in Indian design, and the leading designers are Indians such as Mabel Harris (Sac and Fox), Ioleta Smith (Choctaw), Phyllis Fife (Creek), and Marian Wolf (Kiowa).

Use in the Curriculum: Few teachers have recognized the importance of the visual arts for teaching problem solving skills and various kinds of subject matter, including reading. I first began to recognize the power of the visual arts for teaching problem solving skills when I asked a group of 5 year olds to draw the life in a pond that they had imagined in response to one of my "just suppose" exercises. They were

confronted immediately with the problem of how to draw the water without covering the animals that they had drawn in the pond. I also became aware that 5 year olds could produce many different alternative solutions to this and other problems encountered in visual art activities. In his problem solving course for children, Edward De Bono (1974) placed a great deal of emphasis upon drawing as a thinking medium. He offered such reasons as the following for using drawing as a medium for teaching problem solving skills:

1. Drawing makes for commitment; ideas have to be chosen and formulated in a definite and precise manner.
2. In drawing there are no loose ends, even when there is indefiniteness, the area of ignorance is isolated and defined.
3. In a drawing, everything is visible at once; you can see gaps immediately.
4. Once an idea has been expressed it can be modified.
5. Since everything is visible at once and must hold together, a high degree of organization is necessary.
6. Thinking through drawing is usually enjoyable to most children.
7. Once a problem is established, the children can go ahead with their thinking, and this makes it possible to teach problem solving to a larger number of children at the same time.
8. Children talk and write more freely about their solutions to problems following the use of the drawing medium than they do with other approaches.
9. Drawings provide a common experience for children in a class and for the teacher or other adult involved in the educational experience.

While the drawing medium is especially suited for use with young children, I believe that it and other visual arts could occupy a much greater and more important role in the teaching of many kinds of subject matter to older children and adults at all levels of education. The visual arts are, of course, an important medium of self expression, and this certainly merits for them an important curricular role.

Use in Developing Careers: It is difficult to think of a career that could not be enhanced by enjoyment of and skills in the visual arts. However, this type of giftedness is especially useful in such career fields as the following: architect, art teacher, art therapist, craftsperson (carving, basket weaving, etc.), designer, display worker, engraver, film maker, illustrator, jewelry designer/maker, landscape architect, painter, photographer, sculptor, stage setting artist.

Enjoyment of and Ability in Creative Movement and Dance

Discovery: Although some excellent work has been done on the development of tests to assess creativity in movement (Alston, 1971; Glover, 1974; Wyrick, 1966), these tests have not yet been fully standardized and made widely available. While these tests would doubtless be useful in becoming aware of talent in creative movement and dance that might otherwise be missed, most workers will probably depend on observations and judgments of performance. For this purpose, the following checklist is suggested:

- Experiences deep enjoyment in creative movement/dance.
- Becomes intensely absorbed in creative movement/dance.
- Can interpret songs, poems, stories, and so forth through creative movement/dance.
- Can elaborate ideas through creative movement/dance.
- Movement facilitates learning and understanding of events, ideas, concepts, and reading/literary materials.
- Spends unusual amount of time in perfecting creative movement/dance.

Importance: Until recently, education has attached little importance to giftedness in creative movement and dance. In fact, middle class society has generally made this kind of performance taboo for its own members, even when it has accepted and appreciated the performances of ballet and interpretative dancing. Educators are beginning now to recognize the power of creative movement and dance, not only for developing basic skills among collegiate and professional athletes and professional entertainers, but also as a medium for communication, self expression, and learning of much traditional curricular content.

Evidence among the Culturally Different: In my experience in conducting creativity workshops involving both mainstream and culturally different children, the latter clearly excel. Although there are individual differences, there have been times when it has seemed that all of the culturally different children outperformed almost all of the mainstream culture children. Many people even maintain that this ability is inherent in culturally different groups (e.g., Blacks, Chicanos, Indians, Gypsies, and Appalachian Whites). This does not seem likely, however. A more reasonable interpretation is one based on the differences in the way the cultures encourage and provide opportunity for practice and performance in this creative movement and dance (DuBois, 1970; Lowie, 1963; Steiner, 1970). It is a culturally approved type of giftedness in most culturally different groups.

Further evidence is that a large share of the greatest dancers and "creative movers" have come from culturally different groups.

Use in the Curriculum: In recent years much progress has been made in introducing creative movement and dance into the school curriculum (e.g., Barlin & Barlin, 1971; Boorman, 1969; Dimondstein, 1971; Joyce, 1973; Rowen, 1963). Rowen, for example, has given many practical examples of how creative movement can be used in teaching poetry, language, literature, history, career development concepts, interpersonal relations, mathematics, problem solving, biology, physics, and the like. An excellent example of an elementary curriculum based on creative movement and music has been demonstrated to be successful by Doris Clary (1975). Many examples of how creative movement can be used to facilitate creative reading are provided in the Reading 360 and Reading 720 programs (Clymer et al., 1970, 1976).

Use in Developing Careers: While there are careers in creative movement and dance, there are many other careers that make use of creative movement and dance, such as professional football and professional basketball. Some of the more obvious careers for culturally different youngsters who are gifted in creative movement and dance include: ballet dancer, choreographer, clown, dance therapist, interpretive dancer, mime, physical education teacher, recreation director, recreation therapist, religious interpreter.

Enjoyment of and Ability in Music and Rhythm

Discovery: Although there are a number of useful tests of musical ability such as the Seashore Measures of Musical Talents (Seashore, 1960), Aliferis Music Achievement Tests (Aliferis, 1954), Drake Musical Aptitude Tests (Drake, 1957), and the Musical Aptitude Profile (Gordon, 1965), and although there are measures such as Sounds and Images (Torrance, Khatena, & Cunnington, 1974) and Vaughan's (1971) Test of Musical Creativity that seem to predict certain kinds of creative behavior in the realm of music, actual performance in musical activities will probably continue to be the best route for discovering giftedness in music and rhythm. For this purpose, the following checklist, which can be used by teachers and other observers, is suggested:

- Writes, draws, works, walks, moves with rhythm.
- Rhythm facilitates learning of skills.
- Rhythm facilitates learning and understanding of ideas, events, concepts, and so forth.
- Creates songs.
- Creates music.

- Interprets ideas, events, concepts, feelings, and so forth through rhythm.
- Interprets ideas, events, feelings, and so forth through music.
- Becomes highly absorbed in music and rhythmic activities.
- Works perseveringly at music and rhythmic activities.
- Is exceptionally responsive to sound stimuli.

Importance: Music and rhythm have been the bases for many highly successful careers among the culturally different. Music and rhythm are also widely accepted as media of self expression and communication. More recently, educators (Hickok & Smith, 1974) have begun to recognize the importance of music and rhythm as vehicles for teaching such things as problem solving, basic concepts, and language skills.

Evidence among the Culturally Different: Giftedness in music and rhythm is so common among culturally different groups that some people believe that such talent comes "naturally" to them. An examination of these cultures, however, usually shows that music and rhythm are approved, encouraged, practiced, and rewarded. Most American innovations in music have come from culturally different groups, especially Blacks. They have made such contributions as spirituals, ragtime, jazz, blues, and rock and roll. While many children from culturally different groups are resistant to learning the music of mainstream America and some people even believe that they are incapable of excelling in such "higher" forms of music expression as opera and symphony, there are many examples of Blacks and Indians who have achieved fame in these areas. Among Blacks are such greats as Marian Anderson (opera), Leontyne Price (opera), Roland Hayes (concert artist), Dean Dixon (symphony conductor), and William Grant Still (composer).

Whenever I have had teachers observe culturally different groups for the creative positives, they have always reported a high incidence of giftedness in music and rhythm.

Use in the Curriculum: I have already mentioned the elementary curriculum developed by Clary (1975) and the use of music and rhythm in teaching problem solving skills by Hickok and Smith (1974). A study by Harper, Flick, Taylor, and Waldo (1973) indicated that an early childhood music education program can be used successfully to produce school readiness, at least in certain areas such as auditory discrimination. Hickok and Smith also showed how music and rhythm can facilitate learning in literature, art, dramatics, language development, social studies, mathematics, and science. For the culturally different student gifted in music and rhythm who seems unable to learn in the usual mode of the school, learning through music and

rhythm would seem to be a promising possibility. Many young children who refuse to talk or listen will communicate eloquently and listen intently when the medium is singing and/or music.

Use in Developing Careers: The list of culturally different people who have attained fame and fortune through music and rhythm is enormous. Many of these are represented in the list of biographies and autobiographies of culturally different persons given in Appendix C. Some of the more common career fields for the culturally different in which this talent is important include: band director, composer, conductor, dancer, entertainer, musician, music leader, music teacher, music therapist, song writer, sound systems engineer, television sound director, television song writer or music director, vocalist.

Rendelman (1972) made some provocative suggestions concerning the encouragement of giftedness in music. He pointed out that jazz artists have done what they have done with little help, if any, from the established educational system. He then challenged educators to consider what might be the result of some active, planned effort to encourage, rather than discourage, the musically creative young people of society. Such a program would likely include a disproportionately large number of culturally different young people.

Use of Expressive Speech

Discovery: Since the social situation is a powerful determiner of speech (Labov, 1972, 1973), the discovery of giftedness in expressive speech among the culturally different requires that the would-be discoverer enter into the right social relationship with the young person. Many teachers, school psychologists, and counselors are unable to do this. Whether one is searching for giftedness in expressive speech through standardized test situations or in nontest situations, it is important that the culturally different student feel free to use the expressive system that is most comfortable. The importance of this is illustrated by Foster's (1974) study of the influence of non-Standard English dialect and lexicon upon Black 10th grade students' ability to comprehend, recall, and be fluent and flexible in providing titles for verbal materials. These students scored higher in response to non-Standard English stories than they did to Standard English stories. It was apparent that these students thought better in their language when they were cued in some semblance of their language, were not limited to preset written responses, and were allowed to respond verbally and freely and to interpret as they proceeded. Foster's test also indicated that in an uninhibiting situation Black students can be more verbal and intellectually creative in their own language than they can in Standard English.

The following checklist is suggested for use in screening students who might be gifted in the expressiveness of their speech:

- Speech is colorful.
- Speech is picturesque (e.g., suggests a picture).
- Speech includes powerful analogies, metaphors, and so forth.
- Speech is vivid (e.g., lively, intense, penetrating, exciting).
- Invents words to express concepts and feelings for which existing words are inadequate.
- Combines speech with movement and sound.

Importance: A number of linguists (DeStephano, 1973) tell us that the Standard English of mainstream society is overly particular and vague, and that much of it is verbose and does not help express ideas. Teachers, counselors, psychologists, and other educational leaders especially need to search for ways to communicate their ideas more effectively. Many excellent ideas have perished and scientific breakthroughs have been lost because their originators lacked expressiveness of speech.

Evidence among the Culturally Different: Expressiveness of speech has been a part of the stereotype of Blacks, American Indians, Chicanos, Gypsies, mountaineers, and country people. In fact, it is just this expressiveness that is objectionable to mainstream American society—many believe that it is too expressive. Culturally different groups, however, have also been inventive in their language to create words that express meaning to their own group and, at the same time, conceal their meaning from others (DeStephano, 1973; Foster, 1974).

Abrahams (1973) insisted that Black English is not just a linguistic system. It is also an expressive system. Speech as a part of an expressive system is a performance involving interaction with listeners and combining movement with sound. A number of performance styles have developed, such as jiving, signifying, and marking (mocking). Labov (1973) reported that working class speakers are more effective narrators, reasoners, and debaters than middle class speakers who temporize, qualify, and lose their argument in a mass of irrelevant detail.

Use in the Curriculum: In order to make use of the expressive speech of culturally different students in the curriculum, teachers must first recognize that differences in speech are not necessarily deficits. Linguists such as Labov (1972, 1973) contend that the nonstandard dialects of English spoken by culturally different groups are fully formed languages with all the grammatical structure necessary for logical thought. They contend further that statements to the contrary

by educational psychologists are misinterpretations of superficial differences in the means of expression between these dialects and Standard English. If culturally different students are freed in curriculum tasks to use the expressiveness of their own speech rather than submit to the restraints of Standard English, it is quite likely that their learning and thinking would be superior to what it would otherwise be. Teachers should also recognize that the social condition is an important determiner of speech, and that the social situation can be shifted to attain different educational goals. In some learning and problem solving situations, the "best speech" may be the more expressive speech.

Use in Developing Careers: Expressive speech might enhance one's performance in almost any career. However, career success in such fields as the following are highly dependent on this type of giftedness: advertising writer, composer, lecturer, poet, politician, radio announcer or disc jockey, salesperson, script writer, teacher, television entertainer, television interviewer, writer (novelist, historian, etc.).

Figural Fluency and Flexibility

Discovery: Both the Guilford (1967) and Torrance (1966/1974) batteries of creativity tests contain measures of figural fluency and flexibility that seem capable of identifying giftedness in this area among culturally different groups. Little or no language ability is required by this type of test, and language handicaps seem not to interfere with performance. One need not be dependent upon tests for discovering this kind of giftedness, however. The following checklist is suggested in screening for this kind of talent:

- Produces many different ideas through drawings.
- Produces many ideas with common objects.
- Arranges blocks and other play materials in many combinations.
- Assembles and reassembles complex machines with ease.
- Produces images in response to music, sounds, or movement.
- Sketches maps from memory with ease.
- Organizes objects and materials in space.

Importance: Figural fluency and flexibility involve the ability to produce images. Some people believe that this type of imagery is somehow involved in almost every kind of creative achievement. Certainly, many of the important relationships that must be dealt with in modern society involve figural relationships and new syntheses of them.

Evidence among the Culturally Different: Several of the studies cited in connection with the lack of racial and socioeconomic bias in the Torrance Tests of Creative Thinking have indicated that children from socially different groups excel their mainstream counterparts in figural fluency and flexibility (Gezi, 1969; Kaltsounis, 1974; McNamara, 1964; Smith, 1965; Tibbetts, 1968; Torrance, 1967). None of the studies cited gave evidence of deficits among culturally different groups. Both Meeker and Bruch (Fitzgerald, 1975) found strengths in figural and spatial relations for culturally different groups (i.e., Blacks and Chicanos). Counselors and guidance workers have long recognized the strengths of disadvantaged students in the spatial and figural areas and have responded by urging them into shop and industrial arts courses. This has been resented and resisted by both Chicanos and Blacks in protest movements. In my opinion, this alleged practice on the part of counselors represents a limited view of the potentialities based on this strength, because they do not view spatial and figural abilities as capacities for formulating imagery and for productive thinking. When this enlarged view of figural abilities is adopted, the implications for culturally different, gifted youngsters become more exciting.

Use in the Curriculum: While shop, industrial arts, and home economics courses provide one outlet for giftedness in figural fluency and flexibility, to make curricular assignments on the basis of tested spatial and figural abilities has doubtless been shortsighted. These abilities might be used to facilitate success in almost any subject in the curriculum. In many of the learning experiences designed for Reading 360 (Clymer et al., 1970) and Reading 720 (Clymer et al., 1976), emphasis is placed on visualizing what is read. The images may then be translated into drawings, dramatics, maps, and other products and processes that involve spatial relationships. *Encouraging Creativity in the Classroom* (Torrance, 1970) includes suggestions for such learning experiences in other curricular areas such as history, geography, mathematics, and science.

Use in Developing Careers: Giftedness in figural fluency and flexibility seems to be far more important in many career fields than has commonly been recognized. The following, however, are some of the more obvious and common outlets for this talent: art teacher, baseball player, caterer, crafts worker, designer and developer of new products, engineer, fashion designer, film maker, home economist, humorist, illustrator, impromptu actor, interior decorator, junk dealer, landscape designer, mechanic, pattern maker, photographer, production expediter, seamstress/tailor, troubleshooter in figural/spatial areas.

Enjoyment of and Skill in Group Problem Solving

Discovery: While there has been considerable work by social psychologists and educators (Lake, Miles, & Earle, 1973) in the development of tests of group performance, such tests have not been widely used either to discover talent or to evaluate the effectiveness of educational programs. Few such tests have been standardized and made available commercially. Perhaps the most carefully developed and standardized of these tests for use in school settings is the Russell Sage Social Relations Test (Damrin, 1959, available from Educational Testing Service, Princeton, New Jersey 08540). Perhaps the best methods for discovering such talent are those that provide students with opportunities for solving problems in groups and for getting important tasks done. The following checklist is suggested as a guide for discovering this kind of talent:

- Influences other students to engage in projects he or she initiates.
- Organizes and structures the group and the group task with skill.
- Work in small groups facilitates learning and problem solving.
- Tries harder in small groups than otherwise.
- Produces original and useful ideas in small groups.
- Becomes more alive in small groups.
- Is highly aware of feelings and skills of others in small groups.
- Supports other members of group, displays high group loyalty and involvement.
- Initiates activities in small groups.
- Is effective in teaching others in small groups.

Importance: Guidelines for programs for gifted and talented students developed by the United States Office of Education have included leadership ability as one of the six categories of giftedness to be encouraged (Marland, 1972). There has also been increasing awareness of the need for developing skills in interdependence and skills in collaboration in a changing world. In the early history of the United States, great value was placed on the development of independent behavior. The practices of schools have continued to encourage and give practice in such behavior, almost to the exclusion of cooperative, interdependent behavior. This has meant that business, industry, churches, recreation programs, group psychotherapy, encounter groups, and the like have had to compensate for this lack. The complexity of life in today's society makes great demand upon skills of interdependent group behavior.

Evidence among the Culturally Different: There are many indications that culturally different groups have continued to encourage in their members interdependent, cooperative behavior to a far greater extent

than has the mainstream culture. This has been obvious to me and my students as we have involved disadvantaged Black children in group problem solving activities. In one experiment, teams of disadvantaged Black and White children challenged gifted children from the mainstream culture to a brainstorming and creative problem solving contest (Torrance, 1974b). The teams of disadvantaged children defeated the gifted teams by a surprising margin. The margin seemed to be explainable largely in terms of the superior group interaction skills of the disadvantaged children. Houston (1973) also reported this same kind of superiority in group interaction among Black disadvantaged youngsters.

There is much in the culture of Blacks, American Indians, Chicanos, Gypsies, and other culturally different groups in the United States to encourage the development of group skills. In their homes and communities they do many things in small groups. The older children are given the responsibility for teaching and caring for the younger children in the extended family. In many instances, the requirements for survival in a hostile environment have also necessitated the development of group skills (Halpern, 1973).

In the case of Blacks and American Indians, tribal living had always necessitated group skills. With the coming of the White man and continued alienation from mainstream society, the Indian has continued to depend on skills of group organization and cooperation for survival. Although slave owners usually separated members of the same tribe from one another to prevent their communicating and organizing, Blacks in slavery times used their skill in social organization and interdependence to survive. Following emancipation, the demands of survival in a segregated society continued to call for these skills. Thus, a variety of recent studies yield findings that are surprising to many educators—findings that Blacks have a greater willingness and ability to engage in cooperative group behavior than Whites (Richmond & Vance, 1975; Richmond & Weiner, 1973). Reissman (1962), Houston (1973), and others have commented upon the tendency of members of culturally different groups to support and encourage one another in learning tasks.

Use in the Curriculum: A number of recent innovations in education make use of giftedness in group skills. One of the most successful of these among disadvantaged and culturally different groups has been cross age helpers programs in which children have taught other children (Gartner, Kohler, & Riessman, 1971; Lippitt, Eiseman, & Lippitt, 1969; Lippitt, 1975). In well directed programs, the educational achievement of both the older children and the younger ones has been enhanced. Learning through simulation, games, sociodrama, brain-

storming, and group creative problem solving seem to be effective teaching/learning methodologies that make use of group skills and seem to be especially effective with culturally different students. Greater use of these methodologies would likely make "star" learners of culturally different students gifted in group skills.

A number of successful teaching experiments with disadvantaged young people were probably successful largely because they made use of this type of giftedness. For example, Howe (1969) described an experiment in which untrained teachers successfully taught poetry to disadvantaged high school students. Although these teachers had not been trained as teachers, they used small group methods and were effective in using them. Their methods fitted the learning and working styles of the students they were teaching, most of whom might be classified as culturally different.

Use in Developing Careers: It is quite possible that future careers will make greater demands for group skills than those of the past. In almost all career fields, top places are reserved for those with such skills. The following are examples of career fields that rely especially on group skills: construction supervisor, consultant, explorer, leader, leadership training specialist, military officer, plant section leader, program director, sales manager, scientist, space research and exploration specialist, store manager, supervisor, training director, union organizer.

Responsiveness to the Concrete

Discovery: Frequently, educators derogate concrete thinking as being inferior to abstract thinking. However, responsiveness to the concrete as a creative positive goes beyond what is implied by concrete thinking or concrete operations. The person gifted in responsiveness to the concrete is stimulated by the concrete; thinking and problem solving are facilitated if the problem can be conceptualized in physical terms. This person obtains enjoyment from doing things with his or her hands, from manipulating objects physically, and from using hand tools. Perhaps the best way of discovering this kind of giftedness is through involving culturally different students in meaningful tasks and problems permitting physical manipulation. There are also a number of tests, games, and puzzles that involve this kind of physical manipulation of objects. The following checklist is suggested for discovering this type of giftedness:

- Produces a flow of ideas and alternative solutions when concrete objects and materials are involved.
- Tries to conceptualize problems in terms of concrete objects and systems.

- Uses concrete objects and systems to generate ideas and solutions.
- Works in an absorbed manner for lengthy periods of time on concrete puzzles, mechanical problems, and so forth.

Importance: While concrete thinking has been derogated as an inferior or immature stage of thinking, a large share of the world's most important work requires this type of thinking. Few, however, would derogate responsiveness to the concrete as it has been defined above, since this type of mental function has been important in a large share of the great achievements of the past. This characteristic seems to be associated with the creative personality. For example, in the Runner *Studies of Attitude Patterns* (Runner, 1973), pleasure in the use of hand tools is highly correlated with experimental orientation, intuitive orientation, and resistance to social pressure. Persons gifted in responsiveness to the concrete also have confidence in their perceptions of physical realities, and this includes subjective as well as objective perceptions of the experiencing.

Evidence among the Culturally Different: Giftedness in responsiveness to the concrete would appear to be an adaptive response to poverty, insecurity, stigma, and discrimination, which so frequently characterize the culturally different in society. McCreary (1966) maintained that the natural response to these factors is pride in strength, fighting, distrust in schooling, emphasis on the concrete and practical, antagonism to authority, and loyalty to peers. On the positive side, disadvantaged groups seem to approve and encourage interest in physical activities—practical, concrete, even aggressive physical activities.

In my experience with disadvantaged Black children I have been impressed by their wide practical knowledge, which frequently comes out in group brainstorming sessions. In the contest between disadvantaged teams and advantaged gifted teams mentioned previously (Torrance, 1974b), this characteristic was illustrated in their responses to the problem of thinking of unusual uses of junk automobiles. The affluent gifted teams limited their responses almost entirely to the external aspects of junk automobiles—tires, hub caps, wheels, seats, steering wheel. The disadvantaged children thought of unusual uses for spark plugs, carburetors, springs, and the like.

Riessman (1962, 1966) identified this practical orientation to learning as one of the characteristics of culturally different children. According to Riessman, they have a physical style of learning and frequently are unable to think through a problem unless they can work with it with their hands. Unless they can manipulate objects physically, they cannot perform adequately. Riessman also coined the term "slow gifted child" to characterize the child who may be a

brilliant thinker and excellent problem solver but who takes a long time to think through and solve a problem. Riessman stated that this may be caused at least partially by an emphasis on the concrete and physical. He believed that such physical learners may achieve a different kind of understanding of problems than symbolic learners and approach the abstract from the concrete rather than the other way around.

Use in the Curriculum: The teacher who understands and recognizes the physical style of learning as a legitimate style of learning can use this type of giftedness in designing learning activities. In developing concepts, solving problems, even in remembering information, concrete materials can be used. Much use will be made of the models and analogies supplied by animals and plants in nature. In using concrete materials, however, teachers can cause confusion by placing too much emphasis on small concrete details or on synthesized wholes. Spindler and Spindler (1966), in describing the emphasis of Indians on the concrete, characterized this tendency as Rorschach "large D," or emphasis on the large, important details. The important thing, however, is that teachers understand the positive aspects of responsiveness to the concrete and recognize this as another channel through which learning and thinking may occur.

Use in Developing Careers: The following are examples of careers in which responsiveness to the concrete appears to be an asset: botanist, builder, construction worker, carver (wood, stone, etc.), caterer, ceramic artist, demonstrator (skills, equipment, etc.), engraver, fashion designer, film maker, florist, interior decorator, inventor, mechanic, metal worker, painter, photographer, radio technician, sculptor, zoologist.

Responsiveness to the Kinesthetic

Discovery: There is a danger that responsiveness to the kinesthetic among the culturally different may be equated with a physical or motoric learning style. Responsiveness to the kinesthetic, as I have conceptualized this creative positive, goes far beyond the old concept of a physical style of learning, which is usually thought of as a deficit among the culturally different. Giftedness in responsiveness to the kinesthetic includes many of the kinds of abilities or skills involved in taxonomies of the psychomotor domain (Harrow, 1972). It includes not only manipulative movements but also kinesthetic discrimination, psychomotor coordination, endurance, strength, flexibility, adaptive motor skills, expressive movement, and interpretive movement.

of the growing field of movement education and work on ... skills in the psychomotor domain, assessment procedures ... doubtless be developed for discovering giftedness in this creative positive. Those interested in developing psychometric procedures for assessing this kind of giftedness can build on the earlier work of the Gesell Institute (Ames, 1966) and the California group (Bayley, 1969) and will find many clues in Harrow's (1972) work on a taxonomy of the psychomotor domain and in Birdwhistell's (1970) work on Kinesics. The following checklist is suggested to guide teachers in screening for responsiveness to the kinesthetic:

- Skillfully communicates ideas through movement.
- Skillfully interprets meaning of movement.
- Movement is effective as warm-up for creative thinking.
- Displays skillful manipulative movement in crayon work, typing, piano playing, and so forth.
- Makes quick, precise movements in mime, creative dramatics, role playing, and so forth.
- Shows movement in drawings and other visual art products.
- Makes fine discriminations of kinesthetic phenomena.
- Has excellent memory for kinesthetic information.
- Works at movement activities for extended periods of time.
- Displays total bodily involvement in interpreting a poem, story, or song, and in creative reading, dramatics, and so forth.

Importance: Educators who have been concerned about the taxonomy of educational objectives in the psychomotor domain (Harrow, 1972; Birdwhistell, 1970) are making us aware of the importance of movement in all areas of life. A person performing purposeful movement is coordinating the cognitive, the psychomotor, and the affective domains. Thus, it is necessary to understand muscular, physiological, social, psychological, and neurological movement in order to recognize and effectively use movement potentialities. In addition to these all-encompassing outlets for giftedness in kinesthetic responsiveness are the more specialized talent outlets in athletics, dancing, and the like.

Evidence among the Culturally Different: As indicated in the preceding section on responsiveness to the concrete, a part of the stereotype of the culturally different is a physical, motoric style of learning. Riessman (1966) pointed out that when compared with children from the mainstream culture, culturally different children are more motoric in their learning, express their emotions physically, and admire strength, endurance, and motor skills. It is also apparent that many of those who achieve outstanding success in kinesthetic areas such as

athletics and dance come from culturally different backgrounds. As Riessman (1966) pointed out, a physical style of learning may make them appear to be slow learners, but it may make them exceptionally quick in the kinesthetic areas.

Some observers believe that the painting, sculpture, music, acting, and so on of members of culturally different groups are characterized by a kinesthetic quality. An examination of the examples of art works in Quirarte's (1973) *Mexican American Artists* gives considerable evidence of the kinesthetic quality of the art of Mexican Americans. Even the portraits and Madonnas seem to have a kinesthetic quality. Body movements in these paintings seem to be freer, more expressive, and genuinely felt than in most art works. Dance, combat, and bullfights are favorite subjects of Mexican American artists, and many of their abstract paintings emphasize movement. An excellent example is Michael Ponce de Leon's "Kinetic Construction with Lights and Sounds." In a sense, Ponce de Leon's concept of himself is rather kinetic. He says (Quirarte, 1973) that he thinks of himself and his art as something that is always changing, developing, and receiving and transmitting signals that are constantly changing. Furthermore, the inspiration for his work tends to come from a film, music, or the theater. This characterization comes very close to what I am trying to conceptualize as the creative positive of responsiveness to the kinesthetic.

As movement education and educational objectives in the psychomotor domain become better integrated into the curriculum, the student gifted in kinesthetic responsiveness will likely emerge as a superior learner. The kind of curriculum described by Clary (1975) is an example of a curriculum that would provide this possibility. The physical and kinesthetic interests of children can be used as one avenue of teaching toward abstract thinking. Such teaching and learning methodologies as role playing, sociodrama, creative movement, and creative dramatics should be an important part of the repertoire of teachers of the culturally different. However, these methodologies should be used to trigger advanced discussion and thinking about subject matter. Otherwise, they will not be successful in facilitating learning.

Teachers also need to recognize that the kinesthetically gifted child is not likely to respond to a teaching style that is purely verbal. Verbal explanations and instructions may even be difficult for such children to follow. School psychologists and others administering tests to such children should also be aware of this problem and adopt a more kinesthetic style in giving motivation and instructions for tests.

Use in Developing Careers: Since movement is such an important key to effectiveness in all areas of life, giftedness in kinesthetic respon-

siveness might enhance success in any career field. The following career fields, however, appear to be some in which success is highly dependent upon this kind of giftedness: athlete, athletic coach, choreographer, clown, dancer, film editor, interpretive dancer, mime, physical therapist, recreational specialist, television sports director.

Expressiveness of Gestures and Body Language

Discovery: Expressiveness of gestures and body language as a creative positive of the culturally different overlaps somewhat with the creative positives dealing with creative movement and responsiveness to the kinesthetic. However, in view of the present state of knowledge concerning these types of giftedness, it seems desirable to treat expressiveness of gestures and body language as a separate set of abilities. Its focus is on communicating through gestures and body language and interpreting this kind of communication.

Certain aspects of this type of giftedness may be tapped by some of O'Sullivan and Guilford's (1966) tests of social intelligence, especially their measure labeled Expression Grouping, which involves the interpretation of pictured facial expressions. It is my feeling, however, that tests of this kind miss the essence of the kind of giftedness I have in mind. Thus, I am suggesting the following checklist of behaviors that may help in the discovery of this kind of giftedness:

- Expresses ideas powerfully and accurately through gestures and body language.
- Combines speech with gestures and body language to communicate nuances that cannot be expressed by word.
- Is skilled in recognizing the needs of other children from their gestures and body language.
- Is skilled in recognizing faces.
- Is skilled in mimicry, imitations, and impressions.
- Is accurate in "reading" the body language of the teacher.
- Uses gestures and body language to tell a story.
- Is skilled in charades that rely on the use of gestures and body language.

Readers wishing to create and develop measures for assessing this type of giftedness should find useful guidance in the work of Birdwhistell (1970), Davis (1973), Fast (1971), and Harrow (1972).

Importance: Communication through gestures and body language is obvious in everyday life and is an important aspect of personal functioning. Accurately interpreting the communications of others through gestures and body language is important in all interpersonal relationships and thus in the learning process. In its higher forms in the arts, this type of giftedness brings a great deal of reward to the

possessor and a great deal of pleasure to the beholders. These higher forms of expressiveness of gestures and body language open people to new understandings of feelings, new and enriched images, and inspiration.

Evidence among the Culturally Different: Expressiveness of gestures and body language has been one common characteristic of the stereotype of the culturally different person in the United States. Since anthropologists generally agree that gestures are culture linked both in shape and in meaning, there may be some basis for this stereotype. Fantini and Weinstein (1968) maintained that disadvantaged children learn the nature and meaning of nonverbal expressions and adopt them for their own communication, in which tone, facial expression, and gestures convey the real meaning. Since disadvantaged children seem to rely more heavily on this type of communication than do more advantaged children, Fantini and Weinstein thought that their emotional and affective perceptions may be more highly developed as a result of this developed ability to cue in on the unsaid and implied. The folklore, stories, songs, and dances of Blacks, Indians, Chicanos, Gypsies, and other culturally different groups also suggest that members of such groups are highly alert to a great variety of nonverbal communication and act upon such communications. For example, in the story of *Johnny Osage* (Giles, 1960), a scout was returning to an Osage village, preceding a returning war party. His horse followed a zigzag course across the prairie. Had he been bringing bad news, the scout's course would have been a straight, direct line. Members of the village took action on this nonverbal message and began preparations for the returning group.

Use in the Curriculum: Frequently, teachers do not acknowledge that communication takes place, unless it is verbal. For example, a graduate student in one of our summer creativity workshops for disadvantaged children complained at the end of the workshop that it bothered her that these children never expressed appreciation for anything that anyone did for them. My wife was surprised by this observation but thought that she might know what the graduate student's difficulty was. She then called an active 6 year old Black boy and gave him a red balloon from her purse. He smiled broadly and danced away with enthusiasm to try out his balloon. The graduate student then said, "I see now what you mean. He did express his appreciation." She was able to see that even though he did not say the polite "thank you" of the middle class child, this boy's actions expressed his appreciation much more genuinely than would an insincere "thank you."

The teacher who accurately interprets the communicative gestures and body language of the culturally different child heightens his or her perceptions of the child's feelings, needs, and interests. Thus, the teacher will be able to make more meaningful selections of learning strategies for that particular child. Such methodologies as role playing, creative dramatics, simulation, sociodrama, and creative movement seem to be especially adapted for making use of this type of giftedness.

Use in Developing Careers: The careers of certain types of actors, comedians, and entertainers are built on this kind of giftedness, and almost any career might be enhanced by it. However, the following career fields are some that rely heavily on giftedness in expressiveness of gestures and body language: actor, clown, imitator, mime, nurse, physician, police officer, psychiatrist, psychologist, salesperson, sports scout, supervisor of heavy equipment operators, teacher.

Humor

Discovery: There have been many attempts to develop tests of humor, but at the present time I am unable to identify any well developed, standardized tests of humor that could be used in discovering giftedness in humor. There are a great variety of theories of humor (Goldstein & McGhee, 1972), and in each, one may find clues for identifying humor in everyday life and in various creative products such as writing, drawing, and acting. *Superiority theories* of humor maintain that the roots of humor are in triumph over other people. Humor and enjoyment, according to these theories, occur when people compare themselves favorably to others as being less stupid, less ugly, less unfortunate, or less weak. However, this type of humor may be combined with sympathy, congeniality, empathy, and geniality. The *incongruity theories* of humor insist that humor arises from disjointed, ill suited pairings of ideas or situations or from presentations of ideas or situations that are divergent from usual customs.

According to *surprise theories* of humor, the elements of surprise, shock, suddenness, or unexpectedness are necessary conditions of humor. *Ambivalence theories* of humor contend that the basis of humor is the simultaneous occurrence of incompatible emotions or feelings. *Release or relief theories of humor* maintain that the basis of humor is relief from strain or constraint, or release of excess tension. According to *configurational theories*, humor is experienced when elements initially perceived as unrelated suddenly fall into place. *Psychoanalytic theories* of humor hold that in humor there is an economy in the expenditure of feeling; humor turns an event that would ordinarily cause suffering into less significance..

One can draw from all of these theories of humor to obtain clues for discovering giftedness in humor in the culturally different. I have tried to find such clues in the creative writings and drawings of children. Some workers might find the following checklist helpful:

- Portrays the comical, funny, amusing in role-playing.
- Portrays the comical, funny, amusing in drawings.
- Makes humorous, original comic strips.
- Portrays the comical, funny, amusing in dramatics.
- Makes people laugh a lot in games.
- Makes up humorous jokes or stories.
- Makes people laugh (not "makes fun of") in discussion.
- Describes personal experiences with humor.
- Plays jokes on others.

The problem in using these observations is finding appropriate criteria of what makes something humorous, funny, comical, or amusing. Other than "it makes me laugh," the best criteria I have found are those inherent in the above theories of humor, such as:

- Superior or clever adaptation in triumph or victory.
- Joining together of incongruous disjointed elements.
- Element of surprise, breaking up of a routine course of thought or action.
- Simultaneous experiencing of two or more incompatible emotions or feelings.
- Experience of release from tension or relief from strain.
- Joining together of incongruous elements that fall into place.
- Making something important unimportant and something unimportant important.

Importance: Without humor, life would probably be unbearable to most people. To many people, humor is a survival technique. To those rare individuals who cultivate and use their giftedness in humor in careers, there are rewards as cartoonists, satirists, storytellers, comedians, and jesters of many types. Each of the preceding theories of humor emphasizes a different human need served by humor.

Evidence among the Culturally Different: A large proportion of famous humorists have come from culturally different groups. The most commonly advanced theory to support this phenomenon is that both the ability to produce humor and the ability to see the humorous in everyday events are survival techniques for the culturally different, especially among those who are disadvantaged. For example, Arnez and Anthony (1972), in their discussion of contemporary Black humor, stressed the ability of people to laugh about disappointments

and unfulfilled dreams and promises. They maintained that what people find humorous is a reflection of their culture. Arnez and Anthony identified three stages in Black humor:

1. Ethnic humor in which a group pokes fun at its customs, idioms, and folkways.
2. Public humor that is perpetuated by outsiders (e.g., the Black buffoon singing and dancing).
3. Public humor that gives Blacks dignity, power, and courage (e.g., Dick Gregory, Moms Mabley, Flip Wilson, Godfrey Cambridge).

Although one who discovers giftedness in humor among the culturally different must have some understanding of what is funny in the cultures concerned, my limited experience indicates that it is possible to train the members of one culture to see humor in the productions of members of another culture.

Use in the Curriculum: Humor could be used in classrooms to deepen understanding in every subject in the curriculum. To encourage such humor among children, a teacher need only make it legitimate to laugh. Humor seems to develop quite early (even in infancy) and to be universal. A further encouragement would be to enjoy, recognize, and make use of the natural humor that occurs in the writings, drawings, discussions, and dramatizations of students.

Use in Developing Careers: While humor in some career fields seems to be taboo, giftedness in humor might enhance chances of success in almost any career field. The following career fields provide some of the best outlets: cartoonist, clown, comedian, entertainer, humorist, politician, recreation worker, storyteller, teacher.

Richness of Imagery

Discovery: Richness of imagery has generally been viewed as a characteristic of creative products (such as poems, essays, stories, etc.) rather than as an aspect of giftedness. Although my associates and I (Torrance, 1965c, 1976) have obtained crude measures of richness of imagery in the writings and drawings of children, I know of no really satisfactory measure of this type of giftedness. Since images may be visual, auditory, or kinesthetic, indications of the ability to produce rich imagery may be sought in all three of these modalities and in the processes through which images are produced. The following checklist is suggested as one approach to discovering this type of giftedness among the culturally different using criteria of clarity, intensity, vividness, and liveliness for various types of imagery:

- Imagery in writings.
- Imagery in dance, movement, and other kinetic activity.
- Imagery in singing or instrumental music performance.
- Imagery used in relating personal experiences.
- Imagery that emerges from oral reading.
- Imagery in role playing and dramatics.
- Imagery in drawings and other art work.

Importance: Although some scholars (Sutherland, 1971) have said that richness of imagery may not be as important as psychologists used to think, their arguments have not been convincing. A long line of scholars in the field of creativity research (Koestler, 1964; Patrick, 1955; Ribot, 1906/1973) have assigned roles of major importance to imagery in creative thinking. The synectics approach to invention and creative problem solving relies quite heavily on richness of imagery and attempts to increase the richness of imagery of problem solving teams by combining people from diverse fields (Gordon, 1961; Gordon & Poze, 1973). Using measures derived from both Sounds and Images and Onomatopoeia and Images (Torrance, Khatena, & Cunnington, 1974), considerable validity evidence has been found to show a connection between richness of imagery and creative behavior in everyday life and in achievements such as musical composition.

Evidence among the Culturally Different: Richness of imagery in informal language among the culturally different has been noted quite frequently. *Ribbin', Jivin', and Playin' the Dozens* by Foster (1974) and *Black Children, White Dreams* by Cottle (1974) provide excellent examples of this type of giftedness among Blacks. An examination of the writing of Blacks (Abdul, 1972; Hughes & Bontemps, 1970), Indians (Levitas, Vivelo, & Vivelo, 1974), and other minority groups in the United States provides a wealth of illustrations of richness of imagery. Certainly the story telling of television stars such as Richard Pryor and J. J. Walker is filled with rich imagery.

Use in the Curriculum: Richness of imagery as a creative positive can be used deliberately in the curriculum of the school to facilitate all types of learning and intellectual functioning. Many of the more successful books and courses on improving memory make use of imagery associated with what is to be remembered. It would appear that the richer the imagery (i.e., the clearer, more vivid, more lively, more intense, etc.), the more likely memory is to be facilitated. Many of the activities designed by Torrance and Myers (1970) and by Gordon and his associates (Gordon & Poze, 1968, 1973) are designed to develop richness of imagery and to use this richness to facilitate creative thinking and problem solving.

Use in Developing Careers: Some of the more obvious career outlets for giftedness in producing rich imagery will be found in fields such as the following: actor, choreographer, composer, dancer, designer, inventor, painter, salesperson, storyteller, writer.

Originality and Inventiveness

Discovery: There are a variety of tests that can be used in discovering giftedness in originality and inventiveness among the culturally different. One of the oldest such tests is the Rorschach Ink Blot Test (Klopfer & Davidson, 1962), which uses uncommon responses of good form and human movement as the primary indicators. Current tests which provide measures of originality include the Barron-Welsh Art Scale (Barron, 1969), the Structure of Intellect tests (Guilford, 1967), the Torrance Tests of Creative Thinking (Torrance, 1966/1974), Sounds and Images and Onomatopoeia and Images (Torrance, Khatena, & Cunnington, 1974), and Welsh's Origence measure based on the Welsh Figure Preference Test (Welsh, 1959, 1975).

As with the other creative positives, one need not be dependent upon psychometric procedures. However, it is helpful to evaluators to have some criteria for evaluating originality in behavior. One useful set of guidelines comes from the criteria used by the United States Patent Office in evaluating the "inventivlevel" of patent applications (McPherson, 1963). These criteria include:

1. Newness associated with overcoming a special difficulty—"offers something unusual, remarkable, and surprising."
2. Usefulness associated with making a stride forward, going beyond previous solutions.
3. Required considerable experimentation before achieving a novel solution.
4. Prior failures to achieve a successful solution.
5. Prior skepticism that a successful solution was possible.
6. Existence of an unfulfilled desire which the solution or product supplies.

Koestler (1964) also offered a set of criteria that may be helpful in evaluating the originality of behavior:

1. Previous independence of the skills or elements that are transformed and integrated into a new synthesis.
2. Involvement of several levels of consciousness, guidance by subconscious processes normally under restraint.
3. Activation of regenerative potentials rather than dynamic equilibrium.

4. Superflexibility.
5. Novelty.

The following checklist is suggested for purposes of crude screening:

- Produces solutions that others do not think of.
- Produces solutions when no one else can.
- Solutions are unusual, unconventional.
- Stories have unusual, surprising endings.
- Stories have unusual, surprising plots.
- Comes up with inventions to solve problems.
- Innovates with common materials to produce new solutions.
- Comes up with solutions to problems that others say cannot be solved.

Importance: Almost all the breakthroughs in science, medicine, art, literature, and education have come as a result of originality and inventiveness. In my long range studies of creative behavior (Torrance, 1972c, 1972d), measures of originality and inventiveness have yielded the best predictions of adult creative achievement. In many ways, originality is the essence of that type of creativity that changes the world.

Evidence among the Culturally Different: Many of the studies of racial and socioeconomic differences in creative thinking using the Torrance Tests of Creative Thinking (Torrance, 1971) have shown originality to be one of the strengths of culturally different groups. There are, of course, difficulties in differentiating between unusual solutions that are common to the culture of an individual and unusual solutions that are unique in all cultures. Some of my students have been working on this problem from a cross cultural perspective, and at the present time this does not seem to be a really serious problem of measurement. However, it is a factor that does have to be reckoned with. Several years ago, one first grade teacher who was a student of mine thought that her Black pupils were making up original rhymes. We discovered, however, that these particular rhymes are quite popular in the Black community but are almost unknown in the White community. It still seems to be true that society has had to depend on culturally different individuals to produce many original solutions. Culturally different individuals seem to bring a "different" perspective, which provides a new frame of reference and goes beyond solutions of the "more and better of the same" variety.

Use in the Curriculum: Many recent curriculum materials provide alternative learning activities designed to facilitate original solutions.

The creative problem solving process (Osborn, 1963; Parnes, 1967), synectics (Gordon, 1961; Gordon & Poze, 1973), and lateral thinking (De Bono, 1974) are excellent examples of teachable approaches that increase the chances that learners will be able to produce more original and inventive solutions. In other sources (Torrance, 1970; Torrance & Myers, 1970), my associates and I have provided a variety of curriculum suggestions for encouraging originality and inventiveness.

Use in Developing Careers: The following are some of the career fields that make heavy use of giftedness in originality and inventiveness: advertising writer, cartoonist, consultant (any field), detective, inventor, legislator, product developer, puzzle maker, school principal, school psychologist, script writer, short story writer, trouble shooter (business and industry), writer of instructional materials.

Problem Centeredness

Discovery: Problem centeredness is such a behaviorally oriented phenomenon that it would be difficult to devise a well balanced test to assess this type of giftedness. However, psychometric procedures have been devised to assess certain aspects of it. Most such attempts have involved the length of time a person is willing or able to continue working on a puzzle or difficult problem. Frequently, teachers and parents are annoyed by the problem centeredness of children and tend not to recognize this type of behavior as a potential strength to be used in facilitating learning and in developing careers. The following checklist of problem centered behaviors is suggested as a guide in discovering this kind of giftedness:

- Does not give up easily; keeps trying to solve a problem.
- Persists in asking questions about a problem or topic.
- Shows concern and tries to solve or help solve problems of others.
- Is stimulated by difficult problems.
- Is hard to distract when concerned about a problem.
- Keeps seeing relevance of new information to problems of the group.
- Comes back to a problem or unfinished task time after time.
- Follows up outside of class with problems generated in reading or class discussion by reading, interviewing, experimenting, and so forth.

Importance: One of the major differences between creative problem solving that leads to genuine breakthroughs in thinking and ordinary problem solving is that the thinking involved in creative problem solving requires high motivation and persistence, taking place either

over a considerable span of time or at high intensity (Newell, Shaw, & Simon, 1962). Problem centeredness is also reflected in the criteria of "inventivlevel" as defined by the United States Patent Office, which were discussed in connection with the preceding creative positive.

Evidence among the Culturally Different: The problem centeredness of many culturally different persons is frequently interpreted as a sign of a "one track mind." Most culturally different groups, however, regard this characteristic in a positive light, as reflected in the Chicano proverb, "A Dios rogando y con el mazo dando" (Pray to God, but keep hammering away at your problem). One reason for this difference is that in most culturally different families, especially poor ones, it is convenient for children to work for long periods at a problem. Such behavior keeps them occupied and out of the way of adults who have to be busy at other affairs. However, such behavior would be annoying in a middle class, mainstream society family. A child who becomes absorbed in a problem might be forced to leave it for another activity or scheduled event.

In working with disadvantaged Black children in a day care center, one of my students involved a group of 3 and 4 year olds in a game of seeing how many ways they could think of for putting an object in a wastebasket. For a few minutes, all of the children participated. Soon a few of them wandered away to play at something else. I noted, however, that some of them kept coming back as they thought of new ways for putting the object in the wastebasket. I have never observed this kind of behavior among middle class children.

The following are examples of problem centered behavior observed by my students in a day care center populated almost entirely by culturally different children, mostly Blacks:

> The children as a group frequently worked together to help solve a behavior or coping problem of a group member. They openly displayed awareness of others' problems and would spend an hour or more discussing or analyzing the situation. Frequently, they were very insistent about reaching a solution before returning to their other activities.

> On an intelligence test, I observed one child, Stephanie, who absolutely refused to give up even when the time was called. Also, she did not notice outside distracting stimuli while she was working on this problem.

> One child kept wanting to beat a drum and one of the workers would put the drum away. He would keep finding other objects to use as a drum.

> Many times I observed children who would start a project or activity and then do not want to stop or to go on to another activity. The teacher has a hard time with such children when activities are changed.

> Last week I noticed that I am not effective in getting the attention of the children, but can only talk to them about things that they are involved in—or I can get them interested in my topic only when they come to me. It is as if a child does not see me unless he comes to see me. I cannot interrupt him at all from what he is doing at the moment.

One assignment of my students working in this day care center was to teach problem solving skills such as brainstorming, evaluating alternatives, and the like. They discovered immediately that they could not involve children in a new problem or activity. They found, however, that they could teach the creative problem skills and the process if they used the problem or activity in which the child was already involved.

Use in the Curriculum: The teacher must recognize that problem centeredness is a strength upon which curriculum tasks can be built, and that many culturally different children thrive on such tasks. The curriculum for the culturally different child might be problem centered, or better, expression and problem centered. In our summer workshops we have specialized in combining creative problem solving with creative expressive activities (Torrance & Torrance, 1972). This strategy would seem to be especially compatible with the learning styles of many culturally different children. Amram and Giese (1968), in an Upward Bound Project with culturally different high school students, demonstrated that the creative problem solving way of learning appealed to such students and facilitated their learning.

Use in Developing Careers: Although problem centeredness may interfere with success in some school programs, it is an asset in most work careers. The following career fields are some that place an especially high premium on this strength of the culturally different: consultant, editor, executive, inventor, manager, plant section leader, politician, school psychologist, scientist, sculptor, social worker, supervisor, teacher, troubleshooter, urban planner.

Emotional Responsiveness

Discovery: Since emotional responsiveness is not associated with level of intelligence, this characteristic is not usually thought of as an aspect of giftedness. While there are tests of empathy and emotionality (Lake, Miles, & Earle, 1973), little or no work has been done to apply such measures to problems of discovering giftedness among the culturally different. While such work needs to be done, the following checklist may be useful in discovering this type of giftedness in the culturally different:

- Listens intently and understandingly.
- Feels strong empathy with others and is highly aware of the feelings, distresses, and needs of others.
- Actively responds to meet the needs of others.
- Responds emotionally to stories, events, needs of group members, and so forth.
- Is responsive to sincere interest and concern of others.
- Seems almost psychic in ability to interpret and anticipate the actions of others.

Importance: Recently there has been increased interest in education for affective or emotional achievement (Krathwohl, Bloom, & Massia, 1964; Strom & Torrance, 1973). As the need for increased interdependence becomes more evident in a changing world, this concern is likely to increase, and with it there is likely to be a greater appreciation of giftedness in emotional responsiveness.

Evidence among the Culturally Different: Riessman (1962) and many others have identified emotional responsiveness as a strength of the culturally different. It is commonly recognized that members of culturally different groups, especially those who are poor, are more responsive to one another's needs than are the more affluent. Houston (1973) reported that the disadvantaged children in her studies tried to help and support one another when they were reciting in the games and other research tasks that she used. More affluent children under similar circumstances laughed at and ridiculed one another. This was also one of the big differences noted during the brainstorming contest described earlier between teams of disadvantaged children and teams of affluent mainstream children. The disadvantaged children watching the contest kept trying to help their teams, whereas no such attempts were made by their mainstream counterparts.

Use in the Curriculum: Almost all of the recent accounts of the experiences of teachers in schools populated largely by culturally different children reflect the importance of emotional responsiveness in the curriculum of the school (Anderson, 1966; Braithwaite, 1959; Conroy, 1972; Herndon, 1971; Kohl, 1967). Educational writers such as Borton (1970), Hopkins (1969), Larrick (1971), Lyon (1971), and Rogers (1969) have offered much excellent guidance to teachers and other educators for making use of emotional responsiveness in facilitating learning and growth.

It may be some time before the real importance of emotional responsiveness in the curriculum is recognized. There is much evidence to suggest, however, that the heightened emotional responsiveness of culturally different children makes them more vulnerable to hostile or otherwise unfavorable emotional reactions of teachers. It

may be that this was the really critical factor involved in the Pygmalion Effect discovered by Rosenthal and Jacobson (1968). Most of the subjects of this study were culturally different children, and they apparently sensed clearly a change in the emotional reactions of their teachers to them. There have been a great variety of replications of the Rosenthal and Jacobson study. If it were possible to determine which ones replicated the emotional responsiveness phenomena of this study, it might be possible to obtain a better understanding from this confusing array of studies.

Use in Developing Careers: Certainly most of the helping professions depend quite heavily on their capacity for emotional responsiveness. The following career areas are some of those that rely most heavily on giftedness in emotional responsiveness: child care worker, counselor, impromptu actor, lawyer, nurse, nursery worker, physician, psychiatrist, psychologist, social worker, teacher, therapist.

Quickness of Warm-up

Discovery: There are vast individual differences in the quickness with which people warm up or "get ready to go" in coping with problems for which they have no learned or habitual responses. Some warm up very slowly, and in responding to tests of creative thinking they may go ahead and produce a large number of obvious and commonplace alternatives before they are able to do the "mind stretching" that results in new or original responses. Or, they may sit or stand apparently inert and inactive for a considerable length of time and then seem suddenly to spring into action and produce brilliant solutions. In track competition, there are brilliant dash runners who perform poorly in the distance events, while others perform poorly in the short distance races and excel in the distance races.

In open ended tests of creative thinking such as the Torrance Tests of Creative Thinking, certain aspects of quickness of warm-up may be discovered. Currently, we are obtaining one such measure by determining how many of the early responses to tasks (first three responses in the verbal tests and in the repeated figures task of the figural test) are original (uncommon) responses. The following checklist may be helpful in discovering youngsters gifted in quick warm-up:

- Begins productive work immediately when given a new assignment.
- Becomes tired of waiting and loses interest when there are delays in getting a class or activity started.
- Goes "all out" on a task immediately.

- Responds immediately to emergencies, quick changes, and so forth.
- Adapts immediately to changes in the situation or assignment.
- Produces original ideas early in a brainstorming session.

Importance: Although quickness of warm-up may be overrated at times, there are times when it is essential to survival or to successful adaptation to change. In a society characterized by frequent and rapid change, this characteristic can be quite important. There are times when immediate response to problems is necessary and delays cannot be tolerated.

Evidence among the Culturally Different: Blacks in track events have long been noted for their frequency of success in short distance events such as the 100 yard dash and relative lack of success in distance events such as the mile races. In our summer workshops I have noted a similar tendency among disadvantaged Black children in many situations. For example, on the verbal tests of creative thinking, most of these children would perform with great intensity and produce large numbers of original and useful responses to the first two or three tasks and then say that they were tired and could not think anymore. If the examiner put the test away and came back later in the day or on the following day, the intensive response on the first two or three tasks would be repeated. If the test had been administered in a formal school setting, the examiner would have falsely concluded that such children were either nonverbal, contrary, lazy, or unmotivated.

Use in the Curriculum: At first glance, it would appear that there is a contradiction between my contention that many culturally different children are physical learners and take a long time to complete a task and my contention that many of them warm up quite rapidly. It is indeed a complex matter. Saying that they are characterized by quickness of warm-up does not mean that they are quick to complete a task. They may go all out and work intensely for a short period, using a vast amount of energy to complete a task.

I would like to suggest at least three guidelines in connection with this particular strength of culturally different children. First, a brief physical warm-up is very helpful in many learning, problem solving, and work tasks. Such a warm-up should be quite brief and, if possible, it should be relevant to the task at hand. Second, the teacher or leader should be ready to begin instruction without delays. Disadvantaged children, particularly, will not sit around in a quiet and orderly manner waiting for a teacher to get warmed up and ready to teach. Finally, it must be recognized that children cannot be expected to sustain an "all out" performance over a long period of time. Periods of relaxation or reduced effort between periods of intense effort should be permitted, but not forced.

Use in Developing Careers: The following are examples of careers that require quickness of warm-up for success: ambulance attendant, athlete, comedian, first aid specialist, lifeguard, nurse, physician, pinch hitter or substitute in various settings, plant section leader, police officer, recreation worker, rescue worker, special education teacher.

Articulating Discovery and Nurturance

▫ In the preceding section on the creative positives of the culturally different I have tried to show how educators can articulate the processes of discovery and nurturance of giftedness through the curriculum and the development of careers. On an individual basis, many of the suggestions I have made can be very practical and can serve as a resource to teachers, school psychologists, and consultants or coordinators in programs for the gifted and talented. These suggestions, however, may not be very satisfactory to those who have responsibility for selecting a group of gifted students and designing an intervention program for them. In the remainder of this monograph, I shall attempt to provide some suggestions for dealing with this problem.

THREE ALTERNATIVES

Just as I have pointed out ways of articulating the processes of discovery and nurturance of giftedness in connection with each of the creative positives, I believe that one of the first considerations in selecting and programing should be to fit the two processes together harmoniously. I mean by this that one should not select students according to one measure of giftedness and then place them in a program designed to develop some other type of giftedness. As an example of how this can be done, I would like to describe a proposal I recently made before a seminar of the Southern Regional Educational Board concerning the problem of attracting able Black students to predominantly White colleges and universities and attracting able White students to predominantly Black colleges.

To attract able Black students to predominantly White colleges and universities, and vice versa, students must be offered something "special," some new opportunity that they could not find elsewhere. More and better of the same will not be enough.

Alternative admissions criteria should be appropriate for the kind of programs for which students are recruited and selected. It is unfair

to recruit academically gifted (high IQ, SAT, GRE, etc.) students for programs requiring creative achievement. Similarly, it is unfair to recruit and select highly creative students and then place them in the usual academic program. It is suggested that each college or university establishing one of the following three alternative programs initially admit 25 to 50 students, appoint a full time director, provide space for headquarters, and establish a procedure for applying the alternative criteria. Approximately equal numbers of White and Black students would be selected. It would also be highly desirable to include members of other culturally different groups. Some type of scholarship (waiver of tuition and fees, even a small sum such as $500) should be provided. Graduates of the program might be prepared for conventional occupations, but they would more likely enter unconventional occupations or occupations presently nonexistent.

Talent Development Center

For this alternative, students with some exceptional talent would be recruited. This talent might be in writing, one of the visual arts, drama, music, dance, science, politics, mathematics—even unconventional talents needed by society. All kinds of evidence would be accepted for evaluation, such as art products, musical compositions, photographs, videotaped performances, research reports, and samples of creative writing. The nature of the evidence would depend in part on the ingenuity and creativeness of the applicant. This alternative program would be designed to develop the student's particular giftedness and help the student create the kind of career he or she desires. The student would take courses in whatever departments would facilitate the development of the proposed career, including independent study under professors and specialists in the community or region. The director of this program would be a person expert in the field of career development.

Future Studies Center

For this alternative, students gifted in future problem solving would be recruited and selected. The special alternative admissions criteria might be performance on the future problem solving tests developed by Torrance, Bruch, and Goolsby or some similar battery yet to be developed. The alternative program would develop abilities in future problem solving, futures research, and the like. The director of this program would be a qualified futures scholar. Students in the program would enroll in courses in whatever departments offer op-

portunities for developing the competencies needed in futures studies or careers.

Creative Studies Center

For this alternative, students gifted in creative problem solving would be recruited and selected. As admissions criteria, it is proposed that the Torrance Tests of Creative Thinking and the creativity score of the Alpha Biographical Inventory be used. Both instruments are relatively free of racial and socioeconomic bias. The program would be similar to the Creative Studies Program of New York State University College at Buffalo developed by Parnes and Noller (1973) and described in their book *Toward Supersanity: Channeled Freedom*. In addition to the integrating core of creative studies, students might take some conventional major, or they might simply take courses throughout the college or university to enhance their skills as creative problem solvers. The director of this program would have special expertise in creative problem solving and in developing creative problem solving skills in others.

ALTERNATE APPROACHES FOR ARTICULATING DISCOVERY AND NURTURANCE OF GIFTEDNESS

Since there are vast differences in needs among local educational agencies, approaches for articulating discovery and nurturance of giftedness in the culturally different must vary from one locality to another; more than one approach may be needed in a single school district. While many alternatives and partial alternatives have been identified in this monograph, I would like to suggest a few general approaches to combining these alternatives into workable patterns. The general approaches proposed in the preceding section for colleges served by the Southern Regional Educational Board may depart too sharply from current institutional procedures among high schools and colleges. Compromise alternatives will generally have to be developed. The following are some of the more obvious general approaches.

From Cultural Positive to Mainstream Requirements

An approach that would be acceptable in some localities is to use cultural positives or strengths to discover giftedness in the culturally different, and then to use these strengths as a basis for developing the competencies required for success in mainstream culture. In other words, students might be administered tests such as the Torrance Tests of Creative Thinking or the Alpha Biographical Inventory or

other procedures described for discovering the creative positives. Programs making use of these strengths would then be developed. The competencies required for success in mainstream culture would be developed as readiness develops.

A program developed in 1965 by George Witt (1971) in New Haven, Connecticut, illustrates how this approach might work. Witt selected gifted, disadvantaged Black children on the basis of the figural form of the Torrance Tests of Creative Thinking and a creativity test task that he developed. Sixteen children in the second and third grades of a ghetto school were selected. Twelve of them continued in this program for several years. The program continued to change as the children's competencies and needs changed. As high level abilities were manifested, opportunities were provided for the children to have drama, music, art, ballet, and other kinds of lessons from outstanding teachers. Many of their parents and older siblings were assisted in upgrading their educational and career skills, and they acquired better jobs. Various kinds of sponsors were arranged for both the children and their families, and help was given in providing improved study conditions in the home as the children entered junior high school. The children first moved from their ghetto schools to mainstream public schools and later to first rate private schools.

These transitions were eased by several devices. First, there were contacts with sponsors and teachers from the mainstream culture, initiation into public facilities such as libraries and museums, and attendance at cultural events with sponsoring families. Later, scholarships were obtained for the children's participation in high quality summer camps in the arts and sciences, and the children learned that they could compete successfully with the children of college professors, bankers, and politicians. Volunteers from the mainstream culture then worked with the families of the children. Even later, scholarships were arranged for attendance at first rate private schools. The competencies with which they succeeded in these situations were attained as an outgrowth of activities that made use of their creative positives rather than as a direct result of deliberate attempts to develop these competencies.

The characteristics Witt (1968) used to describe this program may provide useful clues for intervention programs attempting to implement this alternative approach. These characteristics are as follows:

1. The program must be clearly structured but flexible and open ended.
2. It must provide opportunities to be rewarded for solving problems.
3. It must be viewed by one and all in a positive light.

4. It must be tangible and have many activities conducted in the homes.
5. There must be enough competent adults in charge to minimize the need for the ubiquitous instant jeering and quarreling.
6. Controls must be continued indefinitely.
7. It must involve exciting people within and outside the inner city.
8. All learning experiences should be designed so that exciting perceptual-motor experiences precede, accompany, and follow cognitive growth.
9. It must be intimately coordinated by a director expert in individual, group, and community dynamics.
10. It must provide for the support, control, and involvement of the children's families, parents, and siblings.

The ultimate move of culturally different children whose talent is nourished in these ways might be into graduate and professional schools, schools of the performing and creative arts, or appropriate apprenticeships.

Partial Traditional Criteria and Intermediate Intervention Programs

Discovery of giftedness could be based on outstanding performances on partial criteria of traditional types. For example, some culturally different students perform outstandingly in a specific field such as science, mathematics, or foreign languages. Or, they might have high scores on the quantitative section of the Graduate Record Aptitude Examination or the College Entrance Examination Board tests yet perform poorly on the verbal tests. Or, emphasis might be placed on those subtests of the Binet, Wechsler, and other instruments on which culturally different children excel, as suggested by Bruch (1974), Meeker (1969), and others. Or, the plan suggested by Mercer (1973) might be implemented. After selection has taken place, an intermediate intervention program would be introduced to prepare the candidates to move on to high level opportunities. Even here, the cultural strengths of the candidates would be used as the basis for developing the intervention program.

A promising model of this alternative is provided by a program in the medical science area described by Shepherd (1972). This experiment was known as the High School Education Program at the University of Pennsylvania, shortened to HEP-UP. The initial program involved 30 students, 10 each from three large high schools near the university. These students, all Black, were selected on the basis of motivation but not necessarily high achievement. The project director looked for young people who might have high science grades or who might be excited by science. Many surprising successes followed,

even though some of these students were too filled with tension and hatred to work in the situation. In a 1972 evaluation of the project, the evidence described by Shepherd indicated that Black disadvantaged young people can compete with the more affluent ones in medical schools and graduate schools. Such successes were made possible by the intervening experiences of working with highly competent and interested scientists, medical researchers, and the like. It would have been disastrous to have moved such students directly to colleges, graduate schools, and professional schools.

Discovery and Programing Based on Creative Positives

A third alternative would be to base both selection criteria and program development on the creative positives described in this monograph. This has been done in a number of short term programs, such as those described by Amram and Giese (1968) and Bushnell (1970). Such programs provide assurance that this approach might be successful and give clues concerning the implementation of this alternative. However, short term projects are not adequate for helping culturally different, gifted students attain their potentialities.

One way of implementing this alternative is to develop special schools in the performing and creative arts (music, drama, visual arts, dance, etc.). This approach is now being partially tested in such schools in Houston, Texas; New Haven, Connecticut; New Orleans, Louisiana; and North Carolina. It may be that these schools will lead into some new directions. For example, the New Haven school is emphasizing the discovery and nurturance of giftedness among gifted, handicapped young people (deaf and hard of hearing, blind, emotionally disturbed, etc.). The New Orleans school has taken a strong career education approach.

Another facet of this approach would be through curricular reform in all schools, not just special alternative schools. Furthermore, the curricula of the alternative schools themselves would have to be different. "More and better of the same" curricula should be avoided. Stoddard (1973) discussed this problem in connection with the education of Mexican Americans. He contended that present educational curricula in the United States have been developed under the direction of middle class legislators, administrators, and educators. This has been reinforced, he pointed out, by textbook materials that reflect the ethnocentric view of these groups. Standardized elementary, secondary, and collegiate materials have become self perpetuating. Stoddard charged that teacher education programs are not noted for requiring a broad, multicultural, multilingual educational background and usually show no sensitivity to or awareness of cultural

differences. He contended that the inaccuracies in present history textbooks are a great handicap to Mexican American, Black, and Indian children in developing pride in their ancestry and in themselves. On the positive side, Stoddard contended that cultural pluralism has survived despite long efforts to eliminate it, and that the strengths maintained thereby are available for development. He believes that the United States is in a period of transition concerning the acceptability and usefulness of diversity. The alternative suggested here seems especially appropriate for such a period in history.

Selection of Students High on Cultural Positives and Moderate on Traditional Criteria

A fourth approach would be to select students who demonstrate giftedness in the cultural positives and who perform moderately well on traditional criteria. Students identified as gifted in this way would then be provided special support programs to help them attain higher levels on the traditional criteria. Generally, these compensatory efforts have been in the Pygmalion tradition and have not been very successful. A rather novel approach proposed by Whimbey and Whimbey (1975) might be considered. This approach is a kind of cognitive therapy. Students are made aware of their strengths and weaknesses in thinking strategies and are provided directed, specific help in improving their thinking behavior. In essence, they attain the strengths that characterize giftedness in the mainstream culture.

Competition in Creative Writing, Art, Music, Dance, Crafts

A fifth alternative would be to discover and nurture giftedness among the culturally different through programs of competition in those areas in which culturally different students frequently excel—creative writing, art, music, dance, and crafts. Many rather successful and highly developed programs of this kind already exist in athletics, and many culturally different youngsters have won success, fame, fortune, and self fulfillment through them.

FURTHER GENERAL GUIDELINES FOR DISCOVERING AND NURTURING GIFTEDNESS

While it would be premature to formulate a comprehensive set of guidelines for discovering and nurturing giftedness in the culturally different, the following are some of the guiding principles that now seem to be important.

First, the *different but not inferior* perspective is likely to be more productive in discovering giftedness in the culturally different than

are the *deficit* and the *opportunity deprivation* perspectives as conceptualized by Edmund W. Gordon (1974). Attention should be given to those kinds of giftedness that are encouraged and valued by the particular culture to which a person belongs.

Second, creativeness should always be one of the criteria considered in searching for giftedness in the culturally different, though not the sole criterion. There are two major reasons for this: (a) Creativity is a key characteristic of almost every person who has made outstanding social contributions, and (b) creativity is one of the greatest and most common strengths of culturally different groups in the United States.

Third, a variety of kinds of giftedness should be considered in both the discovery and the nurturance process. It should also be recognized that creativity is a multivariate phenomenon, and different kinds of creative thinking abilities should be sampled in the identification process and encouraged through intervention programs. Tests and performance tasks used in evaluation and instruction should be open ended and permit culturally different students to use their experiences, whatever they may have been.

Fourth, the particular strengths (creative positives) of the culturally different should be used in designing the content of the curriculum and in making decisions regarding methods of instruction. The learning environment should have those special characteristics that are congenial to this kind of curriculum and the methods of instruction that accompany it. Many of the ideas needed for designing such curricula and methods of instruction have been included in the previous discussions on the use of creative positives in the curriculum.

Fifth, in programs for gifted, culturally different students, there should be careful avoidance of unreasonable financial demands. Many such students will be from economically deprived families. Stress should be placed on improvisation with commonplace materials, the use of natural phenomena, and access to public facilities such as libraries, zoos, playgrounds, parks, public buildings, and the like. Where possible, there should be opportunities for earning the money necessary for purchasing items such as books, art materials, music instruments, or music lessons.

Sixth, learning activities, administrative procedures, and classroom management practices should be so planned and executed as to help culturally different, gifted children cope with and grow out of their feelings of alienation. Basically, this will involve the development of pride in their special strengths and opportunities for sharing the fruits of those strengths with others.

Finally, a special characteristic of programs for culturally different, gifted students should make heavy reliance on learning and working in teams or small groups. These should include both teacher initiated and pupil initiated activities, planned as well as impromptu experiences. In small groups, disadvantaged Black students who sit silent and apathetic in formal classroom activities are amazingly verbal and articulate. Repeatedly I have seen a disadvantaged Black child teach another somewhat younger child quite effectively when teacher after teacher had failed. I have also seen them teach adults just as adroitly, using teaching skills that any professional pedagogue would envy. At the New Orleans Center for the Creative Arts I saw exciting examples of gifted, culturally different students and mainstream culture students spontaneously teaching one another, problem solving, and learning together. Mutual respect, exchange of information and ideas, and exploration of new alternatives in a musical composition were being experienced.

Culturally different, gifted children, especially disadvantaged ones, need sponsors who can encourage and protect their rights when they are frustrated, discouraged, or abused. They need someone special to them who can see that they get a chance. The purpose would not be to give them something for nothing, but rather to see that they have a chance to work for it.

References

Abbott, E. B. *The relationship of reading comprehension, creative thinking abilities, and extroversion of a select sample of fifth and sixth grade black children.* Doctoral dissertation, University of Georgia, 1973. University Microfilms Order No. 74-4740.

Abdul, R. *The magic of black poetry.* New York: Dodd, Mead, 1972.

Abrahams, R. D. The advantages of Black English. In J. S. De Stephano (Ed.), *Language, society, and education: A profile of Black English.* Worthington OH: Charles A. Jones, 1973.

Aliferis, J. *Aliferis music achievement test, college entrance level.* Minneapolis MN: University of Minnesota Press, 1954.

Aliotti, N. C. *The effects of warm-up activities on the verbal creative thinking abilities of disadvantaged first grade children.* Doctoral dissertation, University of Georgia, 1969. University Microfilms Order No. 70-10,151.

Allen, V. F. Teaching Standard English as a second dialect. In A. H. Passow (Ed.), *Developing programs for the educationally disadvantaged.* New York: Teachers College Press, 1968.

Alston, D. J. *A comparison of motor creativity with verbal creativity and figural creativity of black culturally deprived children.* Doctoral dissertation, University of North Carolina at Greensboro, 1971. University Microfilms Order No. 71-26,932.

Ames, L. B. Individuality of motor development. *Journal of the American Physical Therapy Association,* 1966, *46,* 121-127.

Amram, F. M., & Giese, D. L. *Creativity training—A tool for motivating disadvantaged students.* Minneapolis MN: General College, University of Minnesota, 1968.

Anastasi, A., & Schaefer, C. E. Biographical correlates of artistic and literary creativity in adolescent girls. *Journal of Applied Psychology,* 1969, *53,* 267-273.

Anderson, D. D., & Wright, R. L. (Eds.). *The dark and tangled path: Race in America.* Boston: Houghton Mifflin, 1971.

Anderson, M. *Children of the south.* New York: Farrar, Straus, & Giroux, 1966.

Arnez, N. L., & Anthony, C. B. Contemporary Negro humor as social satire. In S. W. Webster (Ed.), *Ethnic minority groups.* Scranton, PA: Intext Educational Publishers, 1972.

Arnold, L. R. *The effects of differentiated marking tools and motivational treatment on figural creativity*. Unpublished doctoral dissertation, University of Georgia, 1975.

Astin, A. W. *The myth of equal success in public higher education*. Atlanta GA: Southern Education Foundation, 1975.

Barlin, A., & Barlin, P. *The art of learning through movement*. Los Angeles: Ward Richie Press, 1971.

Barron, F. *Creative person and creative process*. New York: Holt, Rinehart & Winston, 1969.

Bayley, N. *Mental and motor development scales*. New York: Psychological Corporation, 1969.

Bernal, E. M. Specific suggestions for identification. In E. G. Fitzgerald (Ed.), *The first national conference on the disadvantaged gifted*. Ventura CA: Ventura County Superintendent of Schools, 1975.

Bernal, E. M., & Reyna, J. *Analysis of giftedness in Mexican American children and design of a prototype identification instrument*. Austin TX: Southwest Educational Development Laboratory, 1974.

Bernstein, B. Elaborated and restricted codes: Their social origins and some consequences. *American Anthropologist*, 1964, *66*, 6.

Birdwhistell, R. L. *Kinesics and context: Essays on body motion communication*. Philadelphia: University of Pennsylvania Press, 1970.

Black, H. *They shall not pass*. New York: W. W. Morrow, 1963.

Boersma, F. J., & O'Bryan, K. An investigation of the relationship between creativity and intelligence under two conditions of testing. *Journal of Personality*, 1968, *36*, 34-348.

Boorman, J. *Creative dance in the first three grades*. New York: David McKay, 1969.

Borton, T. *Reach, touch, and teach*. New York: McGraw-Hill, 1970.

Braithwaite, L. R. *To sir, with love*. Englewood Cliffs NJ: Prentice-Hall, 1959.

Brandwein, P. *Self expression and conduct: The humanities*. New York: Harcourt Brace Jovanovich, 1974.

Brannes, H., & Juntune, J. Multiple talent teaching. Personal communication, January 1975, Pike Lake Elementary School, St. Paul, Minnesota.

Bruch, C. B. Modification of procedures for identification of the disadvantaged gifted. *Gifted Child Quarterly*, 1971, *15*, 267-272.

Bruch, C. B. *Alternative measurement for culturally different gifted*. Paper presented at the North Carolina State Department of Education Conference on Culturally Different Gifted, Rougemont, North Carolina, December 13, 1973.

Bruch, C. B. *Identification of the strengths of the culturally different*. Paper presented at the annual meeting of the National Association of School Psychologists, Las Vegas, Nevada, March 19, 1974.

Bruch, C. B. Assessment of creativity in culturally different children. *Gifted Child Quarterly*, 1975, *19*, 164-174.

Buros, O. (Ed.). *The seventh mental measurement yearbook*. Highland Park NJ: Gryphon Press, 1972.

Bushnell, D. D. Black arts for black youth. *Saturday Review*, July 18, 1970, pp. 43-46; 60.

Caplan, N. Street skills of many hard-to-employ youths may hinder success in job training programs. *Newsletter* (Institute for Social Research, University of Michigan), 1973, *19*(1), 5; 7.

Carringer, D. C. Creative thinking abilities of Mexican youth: The relationship of bilingualism. *Journal of Cross-Cultural Psychology*, 1974, *5*, 492-504.

Check, J. F. An analysis of differences in creative ability between white and Negro students, public and parochial, three different grade levels, and males and females. *APA Experimental Publication System*, December 1970, *9*, Ms. No. 349-34.

Clark, K. B. *Dark ghetto*. New York: Harper & Row, 1965.

Clary, D. H. Music and dance for the disadvantaged. In E. P. Torrance & W. F. White (Eds.), *Issues and advances in educational psychology*. Itasca IL: F. E. Peacock, 1975.

Clymer, T., et al. *Reading 360 program*. Lexington MA: Ginn, 1970.

Clymer, T., et al. *Reading 720 program*. Lexington MA: Ginn, 1976.

Coleman, J. S., et al. *Equality of educational opportunity*. Washington DC: US Department of Health, Education, and Welfare, 1966.

Conroy, P. *The water is wide*. Boston: Houghton Mifflin, 1972.

Cottle, T. J. *Black children, white dreams*. Boston: Houghton Mifflin, 1974.

Covington, N. R. *Creativity in culturally deprived adolescents*. Doctoral dissertation, Florida State University, 1969. University Microfilms Order No. 69-16,362.

Damrin, D. E. The Russell Sage social relations test: A technique for measuring group problem solving skills in elementary school children. *Journal of Experimental Education*, 1959, *28*, 85-99.

Dauw, D. C. *Life experiences, vocational needs and choices of original thinkers and good elaborators*. Doctoral dissertation, University of Minnesota, 1965. University Microfilms Order No. 65-15,250.

Davenport, J. D. *A study of the performance of monozygotic and dyzygotic twins and siblings on measures of scholastic aptitude, creativity, achievement motivation, and academic achievement*. Doctoral dissertation, University of Maryland, 1967. University Microfilms Order No. 68-3350.

Davidson, B. The many faces of Flip Wilson. *Good Housekeeping*, April 1971, pp. 15-28.

Davis, A., Gardner, B. B., & Gardner, M. R. *Deep south*. Chicago: University of Chicago Press, 1941.

Davis, F. *Inside intuition: What we know about nonverbal communication*. New York: McGraw-Hill, 1973.

Davis, G. A., & Warren, T. F. (Eds.). *Psychology of education: New looks*. Lexington MA: D. C. Heath, 1974.

De Bono, E. *Edward de Bono's thinking course for juniors*. Dorset, United Kingdom: Direct Education Services, 1974.

DeCock, L., McGhee, R., & Perry, R. A. (Eds.). *James van der Zee*. Dobbs Ferry NY: Morgan & Morgan, 1973.

Deloria, V., Jr. *We talk, you listen*. New York: Macmillan, 1970.

DeStephano, J. S. *Language, society, and education: A profile of Black English*. Worthington OH: Charles A. Jones, 1973.

Deutsch, M. *The disadvantaged child: Studies of the social environment and the learning process*. New York: Basic Books, 1967.

Dimondstein, C. *Children dance in the classroom*. New York: Macmillan, 1971.

Dove, A. Soul folk "chitling" test (The Dove counterbalance intelligence test). In G. A. Davis & T. F. Warren (Eds.), *Psychology of education: New looks*. Lexington MA: D. C. Heath, 1974.

Drake, R. M. *Drake musical aptitude tests, grades 3 through college*. Chicago: Science Research Associates, 1957.

DuBois, W. E. B. *The gift of black folk*. New York: Washington Square Press, 1970.

Edmonds, R., et al. A black response to Christopher Jenck's *Inequality* and certain other issues. *Harvard Educational Review*, 1973, *43*, 76-91.

Elkind, D., Deblinger, J., & Adler, D. Motivation and creativity: The context effect. *American Educational Research Journal*, 1970, *7*, 351-357.

Ellison, R. L. *The development of scoring procedures for a biographical inventory to predict various criteria of success in science*. Doctoral dissertation, University of Utah, 1964. University Microfilms Order No. 64-13724.

Fantini, M. D., & Weinstein, G. *The disadvantaged: Challenge to education*. New York: Harper & Row, 1968.

Fashions from Indians. *Oklahoma Today*, 1976, *26*(1), 19-21.

Fast, J. *Body language*. New York: Pocket Books, 1971.

Fitzgerald, E. J. (Ed.). *The first national conference on the disadvantaged gifted*. Ventura CA: Ventura County Superintendent of Schools, 1975.

Foster, H. L. *Ribbin,' jivin,' and playin' the dozens*. Cambridge MA: Ballinger, 1974.

Fredrickson, R. H., & Rothney, J. W. M. (Eds.). *Recognizing and assisting multipotential youth*. Columbus OH: Charles E. Merrill, 1972.

Gallagher, J. J. *Talent delayed—Talent denied: A conference report*. Reston VA: The Foundation for Exceptional Children, 1974.

Gartner, A., Kohler, M., & Riessman, F. *Children teach children*. New York: Harper & Row, 1971.

Getzels, J. W., & Jackson, P. W. *Creativity and intelligence*. New York: John Wiley & Sons, 1962.

Gezi, K. I. *Analyses of certain measures of creativity and self-concept and their relationships to social class*. Paper presented at the annual meeting of the California Educational Research Association, Los Angeles, March 14-15, 1969.

Giles, J. H. *Johnny Osage*. Boston: Houghton Mifflin, 1960.

Glover, E. G. *A motor creativity test for college women*. Doctoral dissertation, University of North Carolina at Greensboro, 1974. University Microfilms Order No. 74-22,014.

Goldstein, J. H., & McGhee, P. E. *The psychology of humor*. New York: Academic Press, 1972.

Goolsby, T. M. Alternative admissions criteria for college. In *Non-traditional approaches to assess the academic potential of black students*. Atlanta GA: Southern Regional Education Board, 1975.

Gordon, E. *Musical aptitude profile, grades 4-12*. Boston: Houghton Mifflin, 1965.

Gordon, E. W. Vocational guidance: Disadvantaged and minority populations. In E. L. Herr (Ed.), *Vocational guidance and human development*. Boston: Houghton Mifflin, 1974.

Gordon, W. J. J. *Synectics*. New York: Harper & Row, 1961.

Gordon, W. J. J., & Poze, T. *Making it strange*. New York: Harper & Row, 1968.

Gordon, W. J. J., & Poze, T. *The metaphorical way of learning*. Cambridge MA: Synectics Education Systems, 1973.

Gowan, J. C. *Development of the psychedelic individual*. Northridge CA: J. C. Gowan (9030 Darby Avenue), 1974.

Gowan, J. C. *Trance, art and creativity*. Northridge CA: J. C. Gowan (9030 Darby Avenue), 1975.

Guilford, J. P. *The nature of human intelligence*. New York: McGraw-Hill, 1967.

Guilford, J. P. *Creativity tests for children: A manual of interpretation*. Orange CA: Sheridan Psychological Services, 1971.

Guilford, J. P. Varieties of creative giftedness: Their measurement and development. *Gifted Child Quarterly*, 1975, *19*, 107-121.

Guilford, J. P., Hendricks, M., & Hoepfner, R. Solving social problems creatively. *Journal of Creative Behavior*, 1968, *2*, 155-164.

Halpern, F. *Survival: Black/White*. New York: Pergamon Press, 1973.

Hardy, R. *Some issues in the assessment of Spanish-speaking preschool children*. Paper presented at Southeastern Conference on Measurement in Education, December 5-6, 1975.

Harper, A., Flick, M., Taylor, K., & Waldo, R. Education through music. *Phi Delta Kappan*, 1973, *55*, 628-629.

Harrow, A. J. *A taxonomy of the psychomotor domain*. New York: David McKay, 1972.

Hentoff, N. Jazz and the schools. In R. Grove (Ed.), *The arts and the gifted*. Reston VA: The Council for Exceptional Children, 1975.

Herndon, J. *How to survive in your native land*. New York: Simon & Schuster, 1971.

Herrnstein, R. J. *I.Q. in the meritocracy*. Boston: Atlantic Monthly Press, 1973.

Hickok, D., & Smith, J. A. *Creative teaching of music in the elementary school*. Boston: Allyn & Bacon, 1974.

Hoffman, B. *The tyranny of testing*. New York: Crowell-Collier, 1962.

Hooper, P. P., & Powell, E. R. Influence of musical variables on pictural connotations. *Journal of Psychology*, 1970, *76*, 125-128.

Hopkins, L. B. *Let them be themselves*. New York: Citation Press, 1969.

Houston, S. H. Black English. *Psychology Today*, 1973, *6*(10), 45-48.

Howe, F. Untaught teachers and improbable poets. *Saturday Review*, March 15, 1969, pp. 60-62; 79.

Hughes, L. *Famous Negro music makers*. New York: Dodd, Mead, 1955.

Hughes, L., & Bontemps, A. (Eds.). *The poetry of the Negro, 1746-1970*. New York: Anchor Books, 1970.

Jencks, C., et al. *Inequality*. New York: Basic Books, 1972.

Jensen, A. R. How much can we boost IQ and scholastic achievement?

Harvard Educational Review, 1969, 39, 1-123.
Jensen, A. R. Genetics and education. New York: Harper & Row, 1972.
Joyce, M. *First steps in teaching creative dance*. Palo Alto CA: National Press Books, 1973.
Kaltsounis, B. Race, socioeconomic status and creativity. *Psychological Reports*, 1974, 35, 164-166.
Kamin, L. J. *The science and politics of I. Q.* New York: John Wiley & Sons, 1974.
Kaufman, A. S. *Assessment of preschool black children*. Paper presented at the annual meeting of the National Association of School Psychologists, Atlanta, April 1975.
Kennedy, W. A., Van de Riet, V., & White, J. C., Jr. A normative sample of intelligence and achievement of Negro elementary children in the southeastern United States. *Monographs of the Society for Research in Child Development*, 1963, 28(6).
Klineberg, O. *Race differences*. New York: Harper & Row, 1935.
Klineberg, O. (Ed.). Characteristics of the American Negro. New York: Harper & Row, 1944.
Klopfer, B., & Davidson, H. H. *The Rorschach technique: An introductory manual*. New York: Harcourt Brace Jovanovich, 1962.
Koestler, A. *The act of creation*. London: Hutchinson, 1964.
Kohl, H. R. *36 children*. New York: Signet Books, 1967.
Krathwohl, D. R., Bloom, B. S., & Massia, B. B. *Taxonomy of educational objectives: Affective domain*. New York: David McKay, 1964.
Krippner, S. Creativity and psychic phenomena. *Gifted Child Quarterly*, 1963, 7, 51-63.
Krippner, S. Hypnosis and creativity. *Gifted Child Quarterly*, 1965, 9, 149-155.
Labov, W. *Language in the inner city: Studies in the Black English vernacular*. Philadelphia: University of Pennsylvania Press, 1972.
Labov, W. The logic of nonstandard English. In J. S. DeStefano (Ed.), *Language, society, and education: A profile of Black English*. Worthington OH: Charles A. Jones, 1973.
Lake, D. G., Miles, M. B., & Earle, R. B., Jr. *Measuring human behavior*. New York: Teachers College Press, 1973.
Larrick, N. *Somebody turned on a tap in these kids*. New York: Delta Books, 1971.
Lester, J. *The knee-high man and other tales*. New York: Dial Press, 1972.
Levitas, G., Vivelo, F. R., & Vivelo, J. J. *American Indian prose and poetry*. New York: Putnam, 1974.
Lippitt, P. *Students teach students*. Bloomington IN: Phi Delta Kappa, 1975.
Lippitt, P., Eiseman, J., & Lippitt, R. *Cross-age helping program: Orientation, training, and related materials*. Ann Arbor MI: Center for Research on Utilization of Scientific Knowledge, University of Michigan, 1969.
Lippitt, R., Lippitt, P., & Fox, R. Children look at their own behavior. *NEA Journal*, 1964, 53, 14-16.
Lowie, R. H. *Indians of the plains*. Garden City NY: American Museum Science Books, 1963.

Lunneborg, C. E. Alpha biographical inventory. *Journal of Educational Measurement*, 1971, *8*, 233-234.

Lyon, H. C., Jr. *Learning to feel—Feeling to learn*. Columbus OH: Charles E. Merrill, 1971.

Manuel, H. T. *Inter-American series: Tests of general ability, levels 1-5*. Austin TX: Guidance Testing Associates, 1967.

Marland, S. P., Jr. *Education of the gifted and talented: Report to the Congress of the United States by the US Commissioner of Education* and background papers submitted to the US Office of Education. Washington DC: US Government Printing Office, 1972.

McCreary, E. Some positive characteristics of disadvantaged learners and their implications for education. In S. E. Webster (Ed.), *The disadvantaged learner*. San Francisco: Chandler, 1966.

McDaniel, E. R. *An investigation of the relationship between creativity and socioeconomic status, race and sex of seventh grade pupils*. Doctoral dissertation, University of the Pacific, 1973. University Microfilms Order No. 73-32,099.

McNamara, B. R. *Creativity in disadvantaged children of a particular rural area*. Master's research paper, Wayne State University, 1964.

McPherson, J. H. A proposal for establishing ultimate criteria for measuring creative output. In C. W. Taylor & F. Barron (Eds.), *Scientific creativity*. New York: John Wiley & Sons, 1963.

Meeker, M. N. *The structure of intellect: Its interpretation and uses*. Columbus OH: Charles E. Merrill, 1969.

Meeker, M. N., & Sexton, K. *SOI abilities workbooks*. Los Angeles: Education Department, Loyola-Marymount, 1972.

Mercer, J. R. Institutionalized anglocentrism: Labeling mental retardates in the public schools. In P. Orleans & W. Russell (Eds.), *Race, change, and urban society*. Los Angeles: Sage Publications, 1971.

Mercer, J. R. The pluralistic assessment project: Sociocultural effects in clinical assessment. *School Psychology Digest*, 1973, *2*(4), 10-17.

Miley, J. F., Sato, I. S., Luche, W. J., Weaver, P. W., Curry, J. A., & Ponce, R. H. (Eds.). *Promising practices: Teaching the disadvantaged gifted*. Ventura CA: Ventura County Superintendent of Schools, 1975.

Miller, L. P. (Ed.). *The testing of black students: A symposium*. Englewood Cliffs NJ: Prentice-Hall, 1974.

Mohan, M. Interaction of physical environment with creativity and intelligence. Unpublished doctoral dissertation, University of Alberta, 1970.

Moreno, J. L. *Psychodrama* (Vol. 1). New York: Beacon House, 1946.

Moreno, J. L., & Moreno, Z. T. *Psychodrama* (Vol. 3). New York: Beacon House, 1969.

Moreno, J. M. *The influence of race and social class level on the training of creative thinking and problem solving abilities of fifth and sixth grade students*. Doctoral dissertation, St. John's University, 1974. University Microfilms Order No. 75-3261.

Nash, W. R. *Effects of warm-up activities on the creative thinking of disadvantaged first grade children*. Doctoral dissertation, University of Georgia, 1971. University Microfilms Order No. 72-2520.

Newell, A., Shaw, J. C., & Simon, H. A. The process of creative thinking. In H. E. Gruber, G. Terrell, & M. Wertheimer (Eds.), *Contemporary approaches to creative thinking*. New York: Atherton Press, 1962.

1968 International Science Fair. *American Youth*, September-October 1968, pp. 17-19.

Norton, W. A. *Effects of loudness and type of music on figural creativity, reading, coding, and arithmetic computation tasks*. Doctoral dissertation, University of Georgia, 1971. University Microfilms Order No. 72-11,020.

Osborn, A. F. *Applied imagination* (3rd ed.). New York: Charles Scribner, 1963.

O'Sullivan, M., & Guilford, J. P. *Six factor tests of social intelligence*. Orange CA: Sheridan Psychological Services, 1966.

Parks, G. *Moments without proper names*. New York: Viking Press, 1975.

Parnes, S. J. *Creative behavior guidebook*. New York: Charles Scribner, 1967.

Parnes, S. J., & Noller, R. B. *Toward supersanity: Channeled freedom*. Buffalo NY: D O K. Publishers (771 Delavan Avenue), 1973.

Patrick, C. *What is creative thinking?* New York: Philosophical Library, 1955.

Peterson, J. Extrasensory abilities of children: An ignored reality? *Learning*, 1975, 4(4), 10-14.

Pezzullo, T. R., Thorsen, E. E., & Madaus, G. F. The heritability of Jensen's level I and II and divergent thinking. *American Educational Research Journal*, 1972, 9, 539-546.

Quirarte, J. *Mexican American artists*. Austin TX: University of Texas Press, 1973.

Rendelman, J. S. Music and communication: Maximum thrust from the energy source. *Music Educators Journal*, February 1972, pp. 35-38.

Ribot, T. *Essay on the creative imagination*. New York: Arno Press, 1973. (Originally published, 1906.)

Richmond, B. O. *Creativity in monozygotic and dyzogotic twins*. Paper presented at the annual meeting of American Personnel and Guidance Association, Detroit, April 1968.

Richmond, B. O., & Vance, J. J. Cooperative-competitive game strategy and personality characteristics of black and white children. *Interpersonal Development*, 1975, 5, 78-85.

Richmond, B. O., & Weiner, G. P. Cooperation and competition among young children as a function of ethnic grouping, grade, sex, and reward condition. *Journal of Educational Psychology*, 1973, 64, 329-334.

Riessman, F. *The culturally deprived child*. New York: Harper & Row, 1962.

Riessman, F. The slow gifted child. In S. W. Webster (Ed.), *The disadvantaged learner*. San Francisco: Chandler, 1966.

Riessman, F. Further thoughts on educating the disadvantaged. In A. H. Passow (Ed.), *Developing programs for the educationally disadvantaged*. New York: Teachers College Press, 1968.

Rogers, C. R. *Freedom to learn*. Columbus OH: Charles E. Merrill, 1969.

Rosenthal, R., & Jacobson, L. *Pygmalion in the classroom*. New York: Holt, Rinehart & Winston, 1968.

Ross, G. A. *A report of the Torrance tests of creative thinking administered to fifth graders at two socioeconomic levels*. Oakland CA: Department of Research, Oakland Public Schools, 1963.

Rowen, B. *Learning through movement*. New York: Teachers College Press, 1963.

Runner, K. *A theory of persons: Runner studies of attitude patterns*. San Diego CA: Runner Associates, 1973.

Samuda, R. J. *Psychological testing of American minorities: Issues and consequences*. New York: Dodd, Mead, 1975.

Seashore, C. E. *Seashore measures of musical talent*. New York: Psychological Corporation, 1960.

Seymour, R. K. *Comparison study of various methods of identification of creativity in divergent socioeconomic strata of society*. Doctoral dissertation, Kent State University, 1975. University Microfilms Order No. 75-20,605.

Shepherd, J. Black lab power. *Saturday Review*, August 5, 1972, pp. 32-39.

Smith, L. *Killers of the dream*. New York: Anchor Books, 1949.

Smith, R. M. *The relationship of creativity to social class* (Final report on Cooperative Research Project 2250, US Office of Education). Pittsburgh PA: University of Pittsburgh, 1965.

Soliman, A. M. *A study of the relationship between creativity, social class, social mobility, and vocational goals of high school seniors*. Doctoral dissertation, University of Minnesota, 1967. University Microfilms Order No. 67-10,442.

Solomon, A. O. *A comparative analysis of creative and intelligent behavior of elementary school children with different socioeconomic backgrounds*. Doctoral dissertation, American University, 1967. University Microfilms Order No. 68-13,065.

Spindler, G. D., & Spindler, L. S. American Indian personality types and their sociocultural roots. In S. W. Webster (Ed.), *The disadvantaged learner*. San Francisco: Chandler, 1966.

Stallings, C. Specific suggestions for identification. In E. G. Fitzgerald (Ed.), *The first national conference on the disadvantaged gifted*. Ventura CA: Ventura County Superintendent of Schools, 1975.

Steiner, S. *La raza: The Mexican Americans*. New York: Harper & Row, 1970.

Stevenson, G. M. Implode. *Journal of Research and Development in Education*, 1971, 4(3), 51-56.

Stoddard, E. R. *Mexican Americans*. New York: Random House, 1973.

Strom, R. D., & Torrance, E. P. (Eds.). *Education for affective achievement*. Chicago: Rand McNally, 1973.

Sutherland, M. B. *Everyday imagining and education*. London: Routledge & Kegan Paul, 1971.

Taba, H., & Elkins, D. *Teaching strategies for the culturally disadvantaged*. Chicago: Rand McNally, 1966.

Talents Unlimited. *Talent activity packet*. Mobile AL: Division of Curriculum and Instruction, Mobile County Public Schools, 1974. (a)

Talents Unlimited. *Criterion referenced tests*. Mobile AL: Division of Curriculum and Instruction, Mobile County Public Schools, 1974. (b)

Taylor, C. W. Cultivating new talents: A way to reach the educationally deprived. *Journal of Creative Behavior*, 1968, 2(2), 83-90. (a)

Taylor, C. W. Be talent developers as well as knowledge dispensers. *Today's Education*, December 1968, pp. 67-68. (b)

Taylor, C. W. The highest talent potentials of man. *Gifted Child Quarterly*, 1969, *13*, 9–30.

Taylor, C. W., Cooley, G. M., & Nielsen, E. C. *Identifying high school students with characteristics needed in research work*. Salt Lake City: University of Utah, 1963. (Mimeographed)

Taylor, C. W., & Ellison, R. L. *Manual for alpha biographical inventory*. Salt Lake City: Institute for Behavioral Research in Creativity, 1966. (Revised, 1968.)

Taylor, C. W., & Ellison, R. L. Biographical predictors of scientific performance. *Science*, 1967, *155*, 1075–1080.

Taylor, C. W., & Ellison, R. L. Moving toward working models in creativity: Utah creativity experiences and insights. In I. A. Taylor & J. W. Getzels (Eds.), *Perspectives in creativity*. Chicago: Aldine, 1975.

Tibbetts, J. W. *Relationships of creativity to socioeconomic status, race, sex, and grade-point average in an adolescent population*. Doctoral dissertation, University of Southern California, 1968. University Microfilms Order No. 68-13,589.

Torrance, E. P. Non-test ways of identifying the creatively gifted. *Gifted Child Quarterly*, 1962, *6*, 71–75.

Torrance, E. P. Identifying the creatively gifted among economically and culturally disadvantaged children. *Gifted Child Quarterly*, 1964, *8*, 171–176.

Torrance, E. P. Bringing creativity into play. *Education*, 1965, *85*, 547–550. (a)

Torrance, E. P. Motivating the creatively gifted among economically disadvantaged children. *Gifted Child Quarterly*, 1965, *9*, 9–12. (b)

Torrance, E. P. *Rewarding creative behavior*. Englewood Cliffs NJ: Prentice-Hall, 1965. (c)

Torrance, E. P. *Torrance tests of creative thinking: Norms-technical manual*. Lexington MA: Personnel Press, 1966. (Revised, 1974.)

Torrance, E. P. *Understanding the fourth grade slump in creative thinking* (Final report on CRP Project No. 994, US Office of Education). Athens GA: Georgia Studies of Creative Behavior, University of Georgia, 1967. (Available only through ERIC Document Reproduction Service, ED 018 273)

Torrance, E. P. *Encouraging creativity in the classroom*. Dubuque IA: William C. Brown, 1970.

Torrance, E. P. Are the Torrance tests of creative thinking biased against or in favor of disadvantaged groups? *Gifted Child Quarterly*, 1971, *15*, 75–80.

Torrance, E. P. Predictive validity of bonus scoring for combinations of repeated figures tests of creative thinking. *Journal of Psychology*, 1972, *81*, 167–171. (a)

Torrance, E. P. Tendency to produce unusual visual perspective as a predictor of creative achievement. *Perceptual and Motor Skills*, 1972, *34*, 911–915. (b)

Torrance, E. P. Predictive validity of the Torrance tests of creative thinking. *Journal of Creative Behavior*, 1972, *6*, 236–252. (c)

Torrance, E. P. Career patterns and peak creative achievements of creative high school students twelve years later. *Gifted Child Quarterly*, 1972, *16*, 75–88. (d)

Torrance, E. P. Differences are not deficits. *Teachers College Record*, 1974, *75*, 472–487. (a)

Torrance, E. P. Interscholastic brainstorming and creative problem solving competition for the creatively gifted. *Gifted Child Quarterly*, 1974, *18*, 3-7. (b)

Torrance, E. P. Creativity research in education: Still alive. In I. A. Taylor & J. W. Getzels (Eds.), *Perspectives in creativity*. Chicago: Aldine, 1975.

Torrance, E. P. *Streamlined scoring of the figural forms of the Torrance tests of creative thinking*. Athens GA: Georgia Studies of Creative Behavior, University of Georgia, 1976. (Mimeographed)

Torrance, E. P., Khatena, J., & Cunnington, B. F. *Thinking creatively with sounds and words*. Lexington MA: Personnel Press, 1974.

Torrance, E. P., & Myers, R. E. *Creative learning and teaching*. New York: Dodd, Mead, 1970.

Torrance, E. P., & Torrance, J. P. Combining creative problem solving with creative expressive activities in the education of disadvantaged young people. *Journal of Creative Behavior*, 1972, *6*, 1-10.

Van Mondfrans, A. P., Feldhusen, J. F., Treffinger, D. J., & Ferris, D. R. The effects of instruction and response time on divergent thinking scores. *Psychology in the Schools*, 1971, *8*, 64-71.

Vaughan, M. M. *Music as model and metaphor in the cultivation and measurement of creative behavior in children*. Doctoral dissertation, University of Georgia, 1971. University Microfilms Order No. 72-11,056.

Vontress, C. E. *Counseling Negroes*. Boston: Houghton Mifflin, 1971.

Ward, W. C. Creativity and environmental cues in nursery school children. *Developmental Psychology*, 1969, *1*, 543-547.

Wechsler, D. *Escala de inteligencia Wechsler para niños*. New York: Psychological Corporation, 1951.

Wechsler, D. *Escala de inteligencia Wechsler para adultos*. New York: Psychological Corporation, 1968.

Welsh, G. S. *Preliminary manual: The Welsh figure preference test*. Palo Alto CA: Consulting Psychologists Press, 1959.

Welsh, G. S. *Creativity and intelligence: A personality approach*. Chapel Hill NC: Institute for Research in Social Science, University of North Carolina, 1975.

Whimbey, A., & Whimbey, L. S. *Intelligence can be taught*. New York: E. P. Dutton, 1975.

White, A. *Effects of movement, drawing, and verbal warmup on the performance of fourth graders on a figural test of creative thinking*. Doctoral dissertation, University of Georgia, 1976.

Williams, J. D., Teubner, J., & Harlow, S. D. Creativity in rural, urban, and Indian children. *Journal of Psychology*, 1973, *83*, 111-116.

Williams, R. L. *Manual of directions: Black intelligence test of cultural homogeneity*. St. Louis: Center for Black Studies, Washington University, 1972. (a)

Williams, R. L. *The BITCH-100: A culture-specific test*. Paper presented at the annual meeting of the American Psychological Association, Honolulu, Hawaii, September 1972. (b)

Williams, R. L. *Awareness sentence completion test*. St. Louis: Center for Black Studies, Washington University, 1972. (c)

Williams, R. L. *Themes concerning blacks*. St. Louis: Center for Black Studies, Washington University, 1972. (d)

Williams, R. L. The problem of match and mismatch in testing black children. In L. P. Miller (Ed.), *The testing of black students*. Englewood Cliffs NJ: Prentice-Hall, 1974.

Witt, G. *The life enrichment activity program: A brief history*. New Haven CT: LEAP, Inc. (363 Dixwell Avenue), 1968. (Mimeographed)

Witt, G. The life enrichment activity program, inc.: A continuing program for creative, disadvantaged children. *Journal of Research and Development in Education*, 1971, 4(3), 67-73.

Wolf, R. The measurement of environments. *Proceedings of the 1964 invitational conference on testing problems*. Princeton NJ: Educational Testing Service, 1964.

Wyrick, W. *Comparison of motor creativity with verbal creativity, motor ability, and intelligence*. Doctoral dissertation, University of Texas at Austin, 1966. University Microfilms Order No. 66-14,343.

Yoors, J. *The Gypsies*. New York: Simon & Schuster, 1967.

Appendix A

Summary of Studies of Racial and Socioeconomic Bias of the Torrance Tests of Creative Thinking

Investigator	Grade level	Number of subjects	Results
Check, 1969	4, 7, 12	600	No race (Black/White) differences on verbal or figural tests.
Covington, 1969	Age 15-18	226	No race (Black/White) differences in spite of 15 point IQ difference.
Dent, 1969	Junior high school	146	No SES differences on verbal or figural tests.
Dalton, 1973	College	261	No race (Black/White) differences on verbal fluency and flexibility; Whites higher on verbal originality.
Frierson, 1965	Elementary gifted (IQ=147)	285	Higher SES excelled on originality and elaboration but not on fluency and flexibility.

Investigator[a]	Grade level	Number of subjects	Results
Gezi, 1969	Elementary	NA[b]	Lower SES higher on figural tests.
Johnson, 1973	3-6	145	No SES differences on figural tests.
Kaltsounis, 1974	8	111	Black lower SES higher than White middle SES on fluency and originality.
McDaniel, 1973	7 (Asian, White, Black, Spanish)	192	Complex, but high SES generally scored higher; White and Asian scored better than Black and Spanish.
McNamara, 1964	4, 5, 7	94	No SES differences on verbal tests; low SES excelled on most figural measures.
Moreno, 1974	5, 6	218	No SES differences on verbal or figural tests; no race differences on verbal measures and figural flexibility, originality, and elaboration.
Richmond, 1969	8	NA[b]	Whites excelled Blacks on verbal; no differences on figural tests except Blacks excelled on elaboration.
Ross, 1963	5	117	No SES differences on verbal and figural tests.

Investigator[a]	Grade level	Number of subjects	Results
Seymour, 1975	4, 5, 6	235	No SES differences on 9 of 10 variables; lower SES higher only on figural elaboration.
Smith, 1965	5	603	Among Whites, SES positively related to verbal measures and negatively related to figural; among Blacks, no SES differences on verbal or figural measures.
Soliman, 1967	12	484	No SES differences on figural or verbal measures.
Solomon, 1967	1, 3, 5	722	Some measures favor low SES; some favor higher SES.
Tibbetts, 1969	10, 11, 12	258	Negative SES relationship to figural and verbal tests (r = -.51).
Torrance, 1967	1-6	1000 +	Blacks higher on figural tests; Whites higher on verbal tests.
Williams, Teubner, & Harlow, 1973	4	237	No SES, race, urban-rural differences on figural measures; overall differences on verbal due primarily to low verbal scores of both Indian SES groups.

[a] Bibliographic information on these studies is included in the References.

[b] Not available.

Appendix B

Sample Checklist for Observing Signs of Giftedness among the Culturally Different

____ 1. Sees things in unusual visual perspective.
____ 2. Combines things in unusual ways.
____ 3. Influences other children to do things he or she initiates.
____ 4. Plans activities for group and/or self.
____ 5. Organizes (structures) group to carry out activities (determines who does what).
____ 6. Sustains attention for a long time.
____ 7. Becomes deeply absorbed in an activity.
____ 8. Examines and observes things very thoroughly.
____ 9. Sits quietly and produces alternative solutions.
____10. Makes up and tells fantastic stories/songs/pictures.
____11. Draws pictures showing movement.
____12. Sees movement in pictures, inkblots, sculptures, and so forth.
____13. Does not wait for instructions; goes ahead and explores and tests alternatives.
____14. Follows instructions without being compulsively conforming (dependent on instructions).
____15. Possesses strong commitment/love for something; goes into depth about something.
____16. Makes things "run" (toys, equipment, machines, etc.).
____17. Questions accepted ways of doing things.
____18. Considers possibilities of the improbable.
____19. Makes extensive collections with sustained effort (insects, stamps, flowers, etc.).
____20. Picks up ideas of others and elaborates or puts them into action.
____21. Reads voraciously at every opportunity.
____22. Invents a variety of contrivances, gadgets.

____23. Writes poems, stories on own initiative.
____24. Makes drawings tell a story.
____25. Can tell story in mime.
____26. Persists in observing something over a period of several days or weeks.
____27. Constructs ingenious toys.
____28. Watches natural phenomena (birds, insects, clouds, etc.).
____29. Has amazing capacity for hard work.
____30. Makes people laugh, tells humorous stories, draws humorous pictures.

Appendix C

Annotated List of Biographies and Autobiographies for Young Readers of Successful Culturally Different People

□ The following annotated list of biographies and autobiographies of culturally different men and women may serve several different purposes. First, these books provide culturally different students with meaningful career information. The lives of the subjects of these biographies and autobiographies describe how their career decisions were made, the problems they encountered in preparing for their careers, and the difficulties they encountered on the way to success. Second, the lives of these unusually successful men and women may provide motivation to culturally different children and young people. They can see how other culturally different people have succeeded. Third, the lives of these famous men and women illustrate the importance of the creative positives, how they can be used in school, and how they can be used in developing careers. Fourth, the lives of these culturally different people show that the creative positives do exist in the lives of the culturally different. Fifth, these accounts provide clues about the discovery of giftedness in the culturally different.

No claim of completeness is made. Most of the biographies and autobiographies included in this list are fairly recent. Libraries will have many good autobiographies and biographies that are now out of print. In the annotation, an estimate is made of the grade level for which each book is appropriate. However, individual children might find a book at an earlier or later level quite helpful, depending on reading level and developmental stage.

Abdul, R. *Famous black entertainers of today*. New York: Dodd, Mead, 1974. Eighteen sketches of the careers of Black musicians, theatrical people, dancers, comedians, and film people. Grades 6-9.

Alexander, R. P. *Young and black in America*. New York: Random House, 1970. Episodes from the lives of eight Black men and women (Frederick Douglass, Richard Wright, Daisy Bates, Malcolm X, Jimmy Brown, Anne Moody, Harry Edwards, and David Parks). Grades 7-12.

Allyn, P. *The picture life of Herman Badillo*. New York: Watts, 1972. Biography of the first Puerto Rican to be a voting member of Congress. Grades 2-4.

Angelou, M. *I know why the caged bird sings*. New York: Random House, 1969. Autobiography of Maya Angelou, contemporary Black poet, dancer, and scholar. Grades 7-12.

Angelou, M. *Gather together in my name*. New York: Bantam Books, 1974. Autobiography of the adolescent years of Maya Angelou. Grades 7-12.

Arquin, F. *Diego Rivera: The shaping of an artist*. Norman OK: University of Oklahoma Press, 1971. Biography of one of the giants among twentieth century painters, Diego Rivera. Grades 6-12.

Baez, J. *Daybreak*. New York: Dial Press, 1968. Autobiography of Joan Baez, Mexican American folksinger and pacifist. Grades 7-12.

Bailey, P. *The raw Pearl*. New York: Pocket Books, 1969. Autobiography of Pearl Bailey, popular singer and entertainer. Grades 7-12.

Baldwin, J. *Nobody knows my name*. New York: Dial Press, 1961. Partial autobiography of James Baldwin, eminent Black writer. Grades 7-12.

Baldwin, J. *Notes of a native son*. New York: Dial Press, 1961. Autobiographical notes of James Baldwin. Grades 7-12.

Booker, S. *Susie King Taylor: Civil war nurse*. New York: McGraw-Hill, 1969. Biography of the noted war nurse, Susie King Taylor. Grades 3-6.

Brownmiller, S. *Shirley Chisholm*. New York: Doubleday, 1970. Biographical sketch of Black politician Shirley Chisholm, with emphasis on her initiation into politics. Grades 5-9.

Bruner, R. *Whitney M. Young, Jr.* New York: David McKay, 1972. Biography of Whitney M. Young, Jr., leader of the Urban League. Grades 6-9.

Buchanan, R. *Don Diego de Vargas: The peaceful conquistador*. New York: P. J. Kennedy & Sons, 1963. Biographical sketch of Don Diego, governor of New Mexico. Grades 7-12.

Burchard, M. *Kareem Abdul Jabbar*. New York: Putnam, 1972. Biography of the great Black basketball player, Lew Alcindor or Kareem Abdul Jabbar. Grades 2-4.

Burchard, M. *Sports hero: Phil Esposito*. New York: Putnam, 1975. Biography of Phil Esposito, hockey star. Grades 3-4.

Carmichael, S. *Stokely speaks*. New York: Vintage Books, 1971. Partial autobiography of Stokely Carmichael, Black liberation activist. Grades 9-12.

Chisholm, S. *Unbought and unbossed*. Boston: Houghton Mifflin, 1970. Autobiography of the Black political leader, Shirley Chisholm. Grades 7-12.

Cintron, C. *Memoirs of a bullfighter*. New York: Holt, Rinehart & Winston, 1968. Autobiography of the famous bullfighter, Conchita Cintron. Grades 7-12.

Clark, E. *Cherokee chief*. New York: Crowell-Collier, 1970. Account of the life of John Ross, Cherokee leader of the early 1800's. Grades 5-9.

Cohoe. *A Cheyenne sketch book*. Norman OK: University of Oklahoma Press, 1964. Autobiographical and biographical materials on the Cheyenne warrior and artist, Cohoe. Grades 4-12.

Davis, D. S. *Mr. black labor*. New York: E. P. Dutton, 1972. Biography of A. Philip Randolph, sometimes called the Father of the Civil Rights Movement. Grades 7-12.

Davis, S., Jr., Boyar, J., & Boyar, B. *Yes, I can*. New York: Pocket Books, 1965. Autobiography of Sammy Davis, Jr., popular Black dancer, comedian, and television star. Grades 9-12.

De Kay, J. *Meet Martin Luther King*. New York: Random House, 1969. Biographical sketch of Martin Luther King, Jr., civil rights leader and winner of the Nobel prize for peace. Grades 3-6.

Egypt, O. S. *James Weldon Johnson*. New York: Crowell, 1974. Biography of the versatile Black song writer and leader, James Weldon Johnson. Grades 2-4.

Einstein, C. *Willie Mays: Coast to coast giant*. New York: Putnam, 1963. Biography of Willie Mays, famous Black baseball star. Grades 4-7.

Feelings, T. *Black pilgrimage*. New York: Lothrop, 1972. Partial autobiography of Tom Feelings, contemporary Black artist and interpreter of Black people. Grades 5-9.

Felton, H. W. *Nat Love, Negro cowboy*. New York: Dodd, Mead, 1969. Biography of Nat Love, Black pioneer of the wild west. Grades 3-6.

Felton, H. W. *Nancy Ward, Cherokee*. New York: Dodd, Mead, 1975. Biography of Nancy Ward, Cherokee woman highly honored by her people. Grades 4-6.

Fenderson, L. H. *Daniel Hale Williams: Open heart doctor*. New York: McGraw-Hill, 1970. Biography of Daniel Hale Williams, Black pioneer in heart surgery. Grades 3-6.

Franchere, P. *Cesar Chavez*. New York: Crowell, 1970. Biographical sketch of Cesar Chavez, Chicano leader and labor organizer. Grades 2-4.

Gibson, B., & Pepe, P. *From ghetto to glory*. Englewood Cliffs NJ: Prentice-Hall, 1968. Biography of Bob Gibson, longtime Black baseball great. Grades 6-9.

Giles, J. H. *Johnny Osage*. Boston: Houghton Mifflin, 1960. Fictionalized biography of an Osage warrior-leader. Grades 7-12.

Graham, S. *The story of Phyllis Wheatley*. New York: Julius Messer, 1957. Biography of the noted Black slave artist and writer, Phyllis Wheatley. Grades 3-6.

Graves, C. P. *Matthew A. Henson*. New York: Putnam, 1971. Sketch of the life of Matt Henson, Black explorer to the North Pole. Grades 2-4.

Greenfield, E. *Rosa Parks*. New York: Crowell, 1973. Biographical sketch of Rosa Parks, Black woman who precipitated the famous Montgomery bus strike. Grades 2-4.

Gregory, D. *Nigger*. New York: Pocket Books, 1964. Autobiography of Dick Gregory, popular entertainer and Black civil rights leader. Grades 9-12.

Gridley, M. E. (Ed.). *Indians of today* (4th ed.). New York: ICFP, Inc., 1971. Brief biographical sketches of outstanding Indians of today. Grades 6-12.

Gridley, M. E. *Contemporary American Indian leaders*. New York: Dodd,

Mead, 1972. Biographical sketches of 26 eminent Indian leaders. Grades 6-10.

Gutman, B. *Hank Aaron*. New York: Grossett & Dunlap, 1973. Biographical sketch of Hank Aaron, holder of the world record for home runs. Grades 3-6.

Haber, L. *Black pioneers of science and invention*. New York: Harcourt Brace Jovanovich, 1970. Biographical sketches of 14 Blacks who made important breakthroughs in scientific discovery and invention. Grades 6-12.

Hamilton, V. *W. E. B. DuBois*. New York: Crowell, 1972. Biography of W. E. B. DuBois, noted Black leader, author, and thinker. Grades 5-12.

Hamilton, V. *Paul Robeson*. New York: Harper & Row, 1974. Biography of the famous Black actor, singer, and writer, Paul Robeson. Grades 7-12.

Hansberry, L. *To be young, gifted and black*. Englewood Cliffs NJ: Prentice-Hall, 1969. Autobiography of the noted Black playwright, Lorraine Hansberry. Grades 7-12.

Harnan, T. *Gordon Parks: Black photographer and film maker*. New York: Garrard, 1972. Adolescent and adult biography of Gordon Parks, noted photographer, film maker, and author. Grades 3-6.

Harnan, T. *African rhythm—American dance*. New York: Knopf, 1974. Biography of Katherine Dunham, a major Black artist. Grades 6-9.

Haskins, J. *Adam Clayton Powell: Portrait of a marching black*. New York: Dial Press, 1974. Biography of the Black political leader, Adam Clayton Powell. Grades 7-12.

Haskins, J. *From Lew Alcindor to Kareem Abdul Jabbar*. West Caldwell NJ: Lothrop, Lee & Shepard, 1974. Biography of the famous Black basketball player. Grades 5-7.

Howard, H. P. *Sacajawea*. Norman OK: University of Oklahoma Press, 1972. Biography of Sacajawea, the Shoshoni woman who guided the Lewis and Clark expedition. Grades 7-12.

Jordan, M. *Someday I'll be somebody*. Atlanta GA: Forum House, 1974. Biography of Mickey Hordan, screen actress from disadvantaged White background. Grades 7-12.

Kaufman, M. D. *Jesse Owens*. New York: Crowell, 1973. Biography of the great Black track star, Jesse Owens. Grades 2-4.

Ketchum, R. *Will Rogers: His life and times*. New York: McGraw-Hill, 1973. Biography of the famous Indian, cowboy humorist, and movie star. Grades 5-10.

Killens, J. O. *Great gittin' up morning*. New York: Doubleday, 1972. Biography of Denmark Vesey, important early militant in Black history. Grades 6-9.

Lovelace, M. H. *What Cabrillo found: The story of Juan Rodriguez Cabrillo*. New York: Crowell, 1958. Biography of the discoverer of California. Grades 7-12.

Martin, M. E. *Biographies of black Americans for all Americans*. Columbus OH: Highlights for Children, 1971. Brief biographical sketches of 31 Black Americans whose accomplishments have made history. Grades 3-6.

May, J. *Roberto Clemente*. New York: Crestwood House, 1973. Biography of Roberto Clemente, Puerto Rican baseball star and folk hero. Grades 3-4.

Mays, B. E. *Born to rebel*. New York: Charles Scribner, 1971. Autobiography of the noted Black educator and leader. Grades 8-12.

Moises, R. *The tall candle: The personal chronicle of a Yaqui Indian.* Lincoln NB: University of Nebraska Press, 1971. Life story of a Yaqui revolutionary. Grades 7-12.

Montgomery, E. R. *Chief Joseph: Guardian of his people.* New York: Dell, 1969. Biography of Chief Joseph, leader of the Nez Percé Indians in Oregon, who tried to keep peace between Indians and settlers. Grades 3-5.

Neary, J. *Julian Bond: Black rebel.* New York: Morrow, 1971. Biography of Julian Bond, young Black legislator and civil rights leader. Grades 7-12.

Neihardt, J. G. *Black Elk speaks.* New York: Pocket Books, 1972. Biography of Black Elk, famous warrior and medicine man of the Oglala Sioux. Grades 9-12.

Nelson, M. C. *Maria Martinez.* New York: Dillon, 1972. Biography of Maria Martinez, famous Indian potter. Grades 7-9.

Newlon, C. *Famous Mexican Americans.* New York: Dodd, Mead, 1972. Biographical sketches of 20 Chicanos who have become known for their achievements in diverse fields. Grades 6-9.

Paredes, A., & Paredes, R. *Mexican American authors.* Boston: Houghton Mifflin. Sketches of 12 noted Mexican American writers. Grades 6-12.

Peters, M. *Black achievement.* Chicago: Johnson Publishing Co., 1970. Biographical sketches of 21 Blacks who have made outstanding contributions. Grades 3-7.

Quirarte, J. *Mexican American artists.* Austin TX: University of Texas Press, 1973. Sketches of 30 Mexican American artists. Grades 5-12.

Radford, R. L. *Mary McLeod Bethune.* New York: Putnam, 1973. Biography of Mary McLeod Bethune, pioneer in Black education. Grades 2-4.

Reasons, G., & Patrick, S. *They had a dream.* New York: New American Library, 1969. Brief biographies of 53 outstanding Black Americans. Grades 5-12.

Robinson, B. *Dark companion: The story of Matthew Henson.* New York: Fawcett, 1967. Biography of Matthew Henson, the first great Black explorer of the North Pole. Grades 6-12.

Rollins, C. H. *Black troubadour.* Chicago: Rand McNally, 1970. Biography of Langston Hughes, eminent Black poet. Grades 7-10.

Rudeen, K. *Jackie Robinson.* New York: Crowell, 1971. Biography of Jackie Robinson, first Black player in major league baseball. Grades 2-4.

Rudeen, K. *Roberto Clemente.* New York: Crowell, 1974. Biography of the Puerto Rican baseball star, Roberto Clemente. Grades 2-4.

Schultz, P. H. *Paul Laurence Dunbar, black poet laureate.* New York: Garrard, 1974. Biography of the noted Black poet, Paul Laurence Dunbar. Grades 4-6.

Short, B. *Black and white baby.* New York: Curtis Books, 1971. Autobiography of Bobby Short, noted Black musician and supper club entertainer. Grades 8-12.

Stambler, I. *Golden guitars.* New York: Four Winds, 1971. Story of country music with emphasis upon its stars, most of whom came from culturally different backgrounds. Grades 8-10.

Stevenson, A. *Booker T. Washington: Ambitious boy.* Indianapolis: Bobbs-Merrill, 1960. Biography of the noted Black educator and leader, Booker T. Washington. Grades 4-6.

Stevenson, A. *George Carver: Boy scientist.* Indianapolis: Bobbs-Merrill, 1960. Biography of the great Black scientist, George Carver. Grades 4-6.

Syme, R. *Juarez: The founder of modern Mexico.* New York: Morrow, 1972. Biography of Juarez, who overcame the double handicaps of being poor and Indian to become the political leader of Mexico. Grades 6-9.

Terzian, J. P., & Cramer, K. *Mighty hard road: The story of Cesar Chavez.* Garden City NY: Doubleday, 1970. Biography of Cesar Chavez, labor organizer and activist. Grades 7-12.

Tobias, T. *Maria Tallchief.* New York: Crowell, 1970. Biography of Maria Tallchief, prima ballerina. Grades 2-4.

Tobias, T. *Marian Anderson.* New York: Crowell, 1972. Biography of Marian Anderson, great Black singer. Grades 2-4.

Tobias, T. *Arthur Mitchell.* New York: Crowell, 1975. Biography of Arthur Mitchell, Black ballet dancer and director of Dance Theater of Harlem. Grades 3-5.

Turk, M. *Gordon Parks.* New York: Crowell, 1971. Biography of Gordon Parks, creative and versatile Black photographer, poet, novelist, and film maker. Grades 2-3.

Walker, A. *Langston Hughes, American poet.* New York: Crowell, 1974. Biography of Langston Hughes, noted poet and short story writer. Grades 3-5.

Warren, R. *A pictoral history of women in America.* New York: Crown, 1975. Accounts of women in many kinds of careers. Grades 7-12.

Wolfe, B. *The fabulous life of Diego Rivera.* Chicago: Stein & Day Publishers, 1969. Biography of Diego Rivera, Mexican painter best known for his murals. Grades 7-12.

Yates, E. *Amos Fortune: Free man.* New York: E. P. Dutton, 1950. Biography of a Black slave who had been an African prince by birth and became a productive free man in the United States. Grades 5-8.